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I.—*Notes on some Birds from the Near East and from Tropical East Africa.* By Colonel R. MEINERTZHAGEN, D.S.O., F.Z.S., M.B.O.U.

(Text-figures 1–7.)

[Continued from Ibis, 1921, p. 671.]

PHYLLOSCOPUS COLLYBITA.

Phylloscopus collybita collybita (Vieill.).

Out of a large series of *Phylloscopus* from tropical eastern Africa not one is a Chiffchaff, and, moreover, I can find no record of the species from this region.

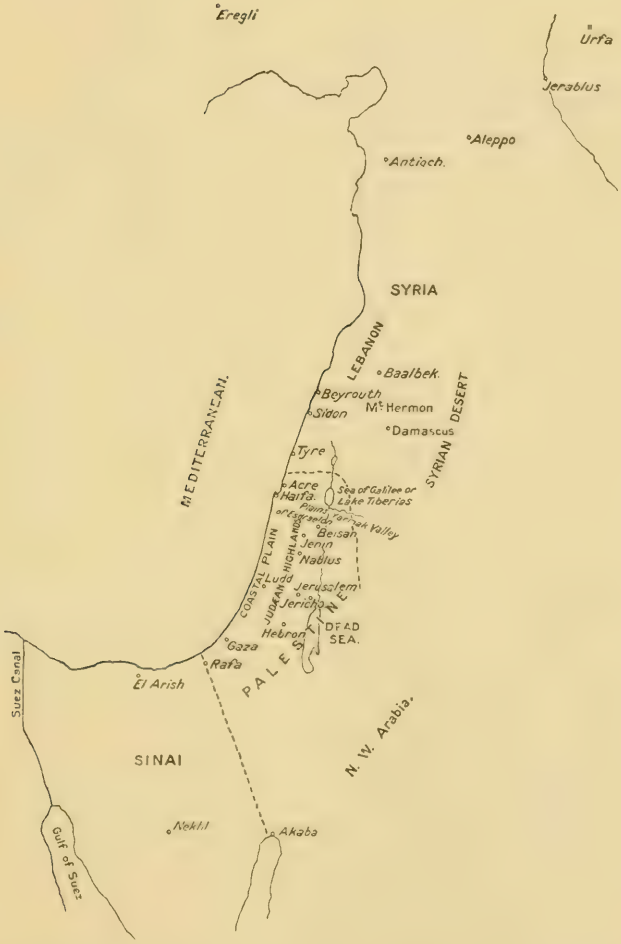
Its southern winter limit appears to be a line across Africa from (in the west) Senegambia, through north-central Sahara, Bahr el Ghazal, southern Abyssinia, and northern Somaliland. I found the Chiffchaff common in the Siwa Oasis in January, and it is a common winter visitor to Egypt, the latest spring record being on 1. iv.

Quite a number appear to winter in the Jordan Valley in Palestine, where they were common from November to February, after all *Phylloscopus trochilus* had gone farther south. Common on passage at Damascus in October.

Text-figure 1.

Sketch-map of Egypt to show localities where birds were collected.

Text-figure 2.



Sketch-map of Palestine and Syria to show localities where birds were collected.

Phylloscopus collybita abietana.

The only specimen I obtained was at Damascus on 10. ix. This race also winters in Egypt, the latest spring record being on 11. iv.

PHYLLOSCOPUS TROCHILUS.

Phylloscopus trochilus trochilus (L.).

In Palestine and Egypt the Willow-Wren is but a bird of passage. Tristram ('Survey of Western Palestine') records it as swarming in the Jordan Valley in winter, but I think all these birds must have been Chiffchaffs. In Palestine autumn passage lasts from the last few days of August to the last week in October.

In Egypt autumn passage lasts about the same period; late birds were seen by Lynes till 18. xi. at Port Said.

On 19. v. 20 I shot a solitary Willow-Wren at Suez. This is the first spring record for Egypt. In Palestine spring passage occurs from the middle of March to the end of April.

Birds do not arrive in any numbers in Kenya Colony and Uganda till the middle of September, and from then on they are common, new arrivals pouring in as late as December and January. They commence moving north from Kenya Colony in early March, my latest spring record being on the Victoria Nyanza on 7. iv. It was obtained by Archer in northern Somaliland on 21. iv.

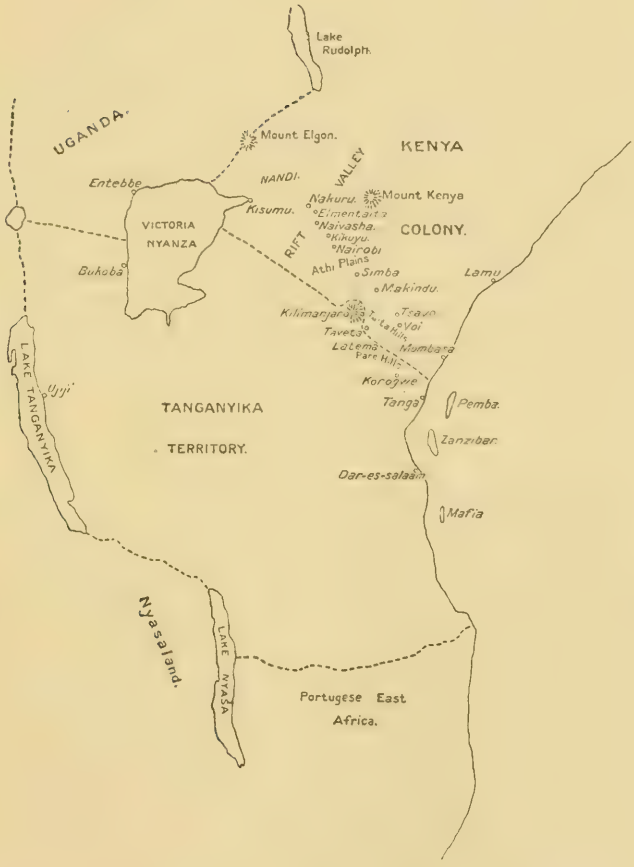
Phylloscopus trochilus eversmanni (Bp.).

Five out of a large series of Willow-Wrens from Kenya Colony prove to be this race. They were obtained at Nairobi on 29. xi. and near the Victoria Nyanza from 23. x. to 25. iii.

Locustella luscinioides luscinioides (Savi).

I obtained a young bird, scarcely able to fly, at Damascus on 10. ix. and an adult male in the Jordan Valley near Jericho on 15. ix. They probably breed in both localities. Several others were seen in both places from September to the end of November.

Text-figure 3.



Sketch-map of part of eastern tropical Africa to show localities where birds were collected.

Locustella fluviatilis (Wolf).

In my African collection are two females obtained at Taveta near Kilimanjaro in December. Alexander obtained a specimen at Zumbo on the Zambesi in winter. Their skulking habits probably account for the paucity of African records.

Hippolais languida (Hemp. & Ehr.).

A scarce winter visitor to tropical eastern Africa. I have specimens from Lake Rudolf in March and from the Taita Hills in Kenya Colony in December. Lönnberg obtained one on the northern Guaso Nyero in Kenya Colony, and Reichenow records (Vög. Afr.) winter birds from the Latema and Pare Hills between Kilimanjaro Mountain and the coast. They arrive early in Africa, as is evidenced by birds in Archer's Somaliland collection, which were obtained on 20. vii. and 29. viii.

HIPPOLAIS PALLIDA.

Hippolais pallida elæica (Lindermayer).

A common summer visitor and breeding bird throughout Syria and Palestine from Aleppo and Damascus to the Jordan Valley. I did not observe them in the Judæan highlands.

All winter visitors of this species to Kenya Colony appear to belong to this race. From December to late March they are common from Uganda to the coast, my latest spring record being from Kisumu on the Victoria Nyanza on 1. iv.

Hippolais pallida pallida (Hemp. & Ehr.).

So far only known to breed in Egypt, where it is an abundant summer visitor, arriving from the south in the middle of March and leaving in September and early October. It appears to be absent as a breeding species from Suez. Birds probably winter not farther south than the Sudan or southern Abyssinia.

ACROCEPHALUS SCIRPACEUS.

An examination of the series at Tring, together with 40 birds collected by me in Syria, Palestine, and East Africa, show clearly the differences between the eastern and western races of the Reed-Warbler.

Acrocephalus s. scirpaceus (Hermann).

Sylvia strepera Vieillot, 1817.

A darker and richer red throughout. Wing of 32 males 64–68 mm., and of 19 females 63–66 mm.

Breeds apparently in western Europe, east at least to Switzerland and central Germany. Occurs on passage in Rumania (Sept.), Italy (Oct.), central Pyrenees (Sept.), at Madrid (Feb.), in southern France (Sept.), and Algerian Sahara (May). Winters in tropical Africa—south-western Uganda (Dec. and Jan.), on the Victoria Nyanza (Jan. and Feb.), in Tanganyika Territory (2 birds Sept. and Jan.), and on the Gambia.

Acrocephalus s. crassirostris (Brehm), Vögelfang, p. 235, 1855: Egypt.

A. s. macronyx (Severtzoff, 1873), Hartert, Vög. pal. Faun. p. 561.

I have examined the type of *Calamoherpe crassirostris*, a male shot in Upper Egypt on 10. v., and I find it identical with a male obtained at Simba in British East Africa on 19. xii. Brehm's bird is in very worn plumage and my Simba bird has apparently missed its autumn moult. I have also examined over 50 specimens of this pale form from Transcaspia, southern Russia, Egypt, tropical Africa, and southern Arabia. I cannot separate these from Brehm's type of *crassirostris*. Under these circumstances, however distasteful, we must accept the older name, and *macronyx* becomes a synonym.

A paler race, closely resembling *Acrocephalus palustris* in colour, but nearly always browner on the back and rump. The only other reliable test between this race and *Acrocephalus palustris* seems to be the notch on the inner web of

the second primary, which is more or less level with the tip of the secondaries, whereas in *palustris* the notch on the second primary is usually well in front of the secondaries. Some specimens are almost impossible to determine.

Wing slightly larger, of 31 males 66–71, and of 19 females 64–68 mm.

Breeds at the mouth of the Volga, in Transcaspia, Turkestan, Persia and Persian Baluchistan, and perhaps in Egypt. Plentiful on passage in Palestine from August to October and again in March, in Egypt in October and April, in Sinai in August and September, and in southern Arabia in April.

Winters in Kenya Colony (Sept. to April) and in Tanganyika Territory (March and April).

Sylvia nisoria nisoria (Bechst.).

A not uncommon visitor to Kenya Colony from early November to January, being obtained on Lake Rudolf, at Tsavo and Simba. All are of the typical race. It is curious that this bird, so common at Port Sudan on the western Red Sea Littoral on passage, should so far not have been obtained in Egypt.

Sylvia atricapilla atricapilla (L.).

In some winters the Blackcap is very common in Kenya Colony, in others it is scarce. Autumn arrivals first appear about the middle of November, at Nairobi and Nakuru in Kenya Colony. The latest spring record is on 16.iii. on Mount Elgon. Wings of 19 eastern African birds vary from 71 to 78 mm.

In Palestine I observed spring passage only on 28.iv., when a flock of about 18 females were seen in a very tired condition near Jerusalem.

Sylvia borin (Bodd.).

Ten birds obtained in eastern Africa from 4.x. to 1.iii. have wings varying from 74 to 80 mm. and culmens from 13·5 to 15 mm. Ten passage migrants from Egypt have wings varying from 76–80 mm. and culmens from 16–17 mm.

A series of seven birds from Sarepta in southern Russia have wings varying from 79–83 mm. and culmens of 14 mm. As Hartert points out (Vög. pal. Fauna, p. 582), eastern birds are as a rule larger than western birds, especially the winter visitors to eastern and southern Africa.

Now the eastern African, Egyptian, and southern Russian birds mentioned above are also rather paler (greyer) both above and below than other European birds.

Winter birds from Sierra Leone agree with the darker and more yellow form from western and southern Europe, whilst the paler and greyer birds appear to winter in southern and eastern Africa west to Lake Tanganyika. Birds from Palestine on autumn passage from 27. viii. to 6. x. would appear to include both races.

Now my experience goes to show that in any species with a wide range, those birds which breed in a country which suffers from a severe winter, travel farther south in winter than those birds which breed in a more equable climate, even though both communities entirely evacuate their breeding-quarters during the winter months. I am therefore inclined to think that those Garden-Warblers which we find in tropical and southern Africa in winter are the birds which breed in Russia and central Asia. This theory is also borne out by the size and paler colour of winter birds from such southern climes.

It certainly looks as though we must accept an eastern and western race of the Garden-Warbler, basing the eastern race on an average larger size and paler plumage. Johansen (Orn. Jahr. xviii. 1907, p. 199) has already named a race from western Siberia *pallida*, but it is based on paler colour and *smaller* size.

SYLVIA COMMUNIS.

Sylvia communis communis Latham.

All my winter birds from Kenya Colony are of the typical race. They appear to arrive in late October or early November and remain the winter, stretching south to Dar-es-Salaam (25. xi.). My latest spring record is at Kilimanjaro on 26. iii.

In Palestine it is a common bird of passage in spring from early March, the main stream of migrants passing up the Jordan Valley and Sea of Galilee, and not up the coast.

Sylvia communis icterops Ménétries.

A rare breeding species in the coastal plains of Palestine. Obtained at Ludd on 1. v.

Sylvia curruca curruca (L.).

Common on spring passage in 1920 on the Sea of Galilee in Palestine from 3. iii., but in Egypt spring passage occurred in the same year from 24. iii. to 11. iv.

Sylvia conspicillata conspicillata Temm.

A few are resident in the Jordan Valley near Jericho, where I saw them throughout the winter and found a nest with one egg on 29. iv.

In Egypt they are common on the scrubby desert fringing the Delta and on Lake Moeris in the Fayoum, and though I only observed them from October to January, they probably breed in these localities, as I found two old nests undoubtedly of this species.

AGROBATES GALACTOTES.

Agrobates galactotes syriacus (Hemp. & Ehr.).

In my African collection are three examples from Voi and Taveta in Kenya Colony obtained in March and December. There is little doubt that *Agrobates familiaris psammochrous* of Reichenow (Vög. Afr.) recorded from eastern Africa is of this race (*cf.* Hartert, Vög. pal. Fauna, p. 605).

In a paper on the birds of Turkanaland by Van Someren (Journ. East Afr. & Uganda N. H. S., no. 16, 1921, p. 27), in which trinomials are largely ignored thereby rendering most palæarctic material useless, *Agrobates g. minor* is said to have been obtained in western Rudolf. The wings of six birds are given as 86–93 mm. It is clear from this that the specimens cannot be *minor*, whose wing rarely exceeds 82 mm. They are probably *syriacus*.

Agrobates galactotes galactotes (Temm.).

Does not appear to winter much south of the line Bahr el Ghazal, Khartoum, Port Sudan.

A very common summer visitor to Egypt, Suez, and Palestine, commencing to arrive in Egypt during the first few days of April and in Palestine during the second week in April. In summer they swarm throughout the Jordan Valley and the coastal plain. I saw a few in Jerusalem at the end of April 1920, but I have no record of their breeding in the Judæan highlands.

CISTICOLA CISTICOLA.

Cisticola cisticola neurotica Meinertz. Bull. B. O. C. xli. 1920, p. 25.

The upper parts of this Palestine race are paler and greyer than in *C. c. cisticola*, but not so pale as *aridula* or *arabica*, or as a specimen from Mesopotamia which I have seen in the Tring collection.

An uncommon and local resident, chiefly in the coastal region of Palestine from near Beirut to Jaffa. Not seen in the Jordan Valley or on the Judæan highlands.

Cisticola cisticola cisticola (Temm.).

Birds from the Egyptian Delta are puzzling. I have seen some which agree well with the typical race; in fact the majority seem to do so, but there are in the British Museum a small series which more closely resemble *harterti*. Witherby (Bull. B. O. C. xl. 1920, p. 119) thought they all belonged to *harterti*, which is not the case.

This race seems to be the resident race in northern Africa, Spain north to Valencia, and the Balearic Islands.

Cisticola cisticola harterti Witherby.

The resident race in southern France, Italy, Sicily, Sardinia, Asia Minor at Smyrna and Aidin, and partly in Egypt.

Cisticola cisticola annæ, subsp. nov.

Birds from Cyprus are intermediate between the typical form and *C. c. harterti*. They are not so dark as *C. c. cisticola* and not so red as *C. c. harterti*. They also have weaker bills. Eight examined from Cyprus have wings 45 to 50 mm.

Type : (unsexed) Famagusta, 27. x. 1901. Collected by Miss D. Bate. B.M. Reg. No. 1903.8.2.99.

Cisticola cisticola berberæ, subsp. nov.

A series of four examined, collected by Archer in northern British Somaliland. They are greyer even than *arabica*, almost completely lacking the rufous on the rump and lower back. Centres of the feathers on the head and back not so dark. Flanks and thighs with much less rufous than in *arabica*. A much paler and greyer bird than *uropygialis*.

Paler than birds in similar plumage from Socotra (*C. c. hæsitata*) and with a paler buff tone on the rump. Larger than *C. c. hæsitata*.

Wings of four *C. c. berberæ* 50–51, and of five *C. c. hæsitata* 47–49 mm. Culmen slightly longer than *C. c. hæsitata*.

Birds from north-western British Somaliland, at Makanis, and from Abyssinia, that is to say west of long. 43° E., appear to belong to *C. c. uropygialis*.

Type, ♂ : near Berbera at 3000 feet, shot on 13. i. 1919 (Archer coll.).

Turdus philomelos philomelos Brehm.

I have examined the series of Continental Song-Thrushes at Tring from East Prussia, Russia, Switzerland, Cyprus, Algeria, and Morocco, together with birds collected by myself in Palestine and Egypt, and I am unable to confirm Zedlitz's conclusion (J. f. O. 1919, p. 489), in which he names the central European Thrush *brehmi* on account of the brighter underparts, darker breast-spotting, and olive-brown upper parts, in contrast to the distinct grey of the more northern bird.

I find that variation is not in accordance with geographical distribution, but is individual and seasonal. There is very little in size, though birds from the eastern part of the range of the species do contain some huge individuals. A winter male from Palestine has a wing of 125 mm.; this is the largest Song-Thrush I have measured.

Monticola saxatilis (L.).

I am only dealing with the migratory movements of the Rock-Thrush in the Near East and down the eastern half of the African continent.

In Palestine the bird breeds only rarely among the highest peaks of the Lebanon and Hermon systems, and is not often seen passing through Palestine to and from its breeding grounds. It appears to arrive in the first half of April and commences to depart during the last days of August.

In Cyprus, autumn passage is probably at its height between 27. viii. and 24. ix.

In Egypt, Nicoll states they are common on spring and autumn passage, but they appear to be commoner in spring than in autumn. Autumn passage in Egypt occurs from about 28. viii. to the end of September. I do not believe they winter in Egypt.

The Rock-Thrush is a common winter visitor to the Sudan from late September to April, and occurs in northern Somaliland in January. Young birds commence to arrive in northern Somaliland in the second half of September, adults appearing in early October. In Kenya Colony they commence to arrive about Nairobi and Naivasha during the last week of October. I can find no winter record of birds in eastern Africa south of a line from Bagomoyo on the coast just north of Dar-es-Salaam to Ujiji, the terminus of the Central Railway on Lake Tanganyika.

Birds commence to move north from the tropics towards the end of March when the majority leave, and they pass north in Somaliland in the second half of March and through Egypt during the last few days of March and throughout

the first half of April. A few stragglers may be seen later.

On the eastern coast of Africa spring passage seems to be slightly later—from 20. iii. to 16. iv. Birds have been shot in Abyssinia as late as 31. iv. and in Sinai from 1. iv. to 22. iv.

On autumn passage the birds of the year appear to leave first and they certainly arrive first in the tropics, the first adults not being seen till December or January in Kenya Colony.

On spring passage on the coast of eastern Africa, the bulk of the first birds to move are old males, and the bulk of the late migrants are females. In Egypt all the first spring passage migrants are males.

Monticola solitarius L.

All spring migrants through Egypt belong to the eastern race *transcaspicus* (8 examined). A winter (January) bird from Sollum in western Egypt is of the same race. Winter visitors to Palestine are *transcaspicus* and *M. s. solitarius*.

I have not been able to examine authentic breeding birds from Palestine or Egypt: the breeding race in Crete is *M. s. solitarius*. Winter birds to Somaliland are the typical race.

Œnanthe œnanthe (L.).

I have recently examined the series of Common Wheatears in the Tring collection, including the supposed races *argentea* and *rostrata*. Mr. Witherby also very kindly lent me four breeding males from Portugal and three from the Sierra Nevada in Spain. In addition to these, 38 Egyptian passage migrants in the Giza Zoological Museum, 12 collected by myself in Syria and Palestine, and 19 winter visitors to eastern Africa.

I have not included in the following remarks the races *virago* from Crete, *seebohmi* from Algeria and Morocco, *leucorrhoa* from Greenland, or *phillipsi* (which I believe to be a race of *Œ. œnanthe*) from Somaliland.

Now the races into which the Wheatears under review have been divided are :—

œnanthe from Europe and western Asia generally.
argentea from central Asia.
rostrata from Syria and Palestine.
nivea from southern Spain.

The characters on which these races depend for their separation are the size of the culmen and wing, the degree of colour on the mantle, the extent of white on the forehead, and the colour of the wing-margins in autumn plumage.

The validity of these geographical races seems to depend on the proportion, necessary within a given area, of those individuals which conform to the characters on which the race is based.

As I understand a subspecies, absolute constancy is unnecessary and is indeed rarely seen. But what degree of constancy is required? It must be a matter of opinion, but I will arbitrarily take 75 per cent. as the necessary proportion of birds which agree with the characters which separate the race within a given area.

Among the Wheatears in question I find that considerably less than 75 per cent. have the characters assigned to the various races, and as I believe that some of these characters, such as density of colour on the mantle or amount of white on the forehead, depend more on individual variation (or perhaps age) than on geographical distribution, I am compelled to unite them all under *Œnanthe œnanthe œnanthe*.

Males from Europe.—Wings of males usually between 93 and 98 mm., rarely 99 or 100 mm.; culmen between 16 and 17 mm. Birds from Great Britain average slightly smaller. 10 males from Norway 95–97, 100; 8 from Sweden 93·5–98; 11 from western Russia 91–99. 52 from Macedonia and Greece (teste Stresemann, Avif. Macedon.) vary from 89 to 99 mm. Breeding birds from Greece do not have an unusually pale mantle. Four birds from Portugal have wings 93–98 and culmens 17·5–18 mm. One has a very

pale mantle and white forehead, the remainder being normal. Three birds from the Sierra Nevada in southern Spain have wings 93, 95, and 99 mm. and culmens varying from 18·5 to 19. One has a very pale mantle and white forehead, one has a broad white forehead and normal mantle, whilst the third is in every way normal.

Birds from the Mediterranean islands have longer culmens, usually between 18 and 19 mm.

But in all cases I have seen, the paler the mantle the whiter the forehead, this being particularly noticeable in Witherby's Spanish and Portuguese birds. These pale mantles and white foreheads can be found from Scotland to Spain and from Germany to central Asia and Palestine.

Males from Syria and Palestine.—These have been separated under the name *rostrata* on account of the longer culmen and paler wing-margins in autumn plumage. This latter characteristic I am unable to confirm. Now the wings of Palestine birds vary from 95 to 99 (once 100) and culmens vary from 17 to 19 mm. The mantle and forehead agree with others in similar plumage from Continental Europe.

Males from Turkestan.—These have been described under the name *argentea*, on account of their supposed paler mantles and whiter forehead. Of 13 birds examined, only five can be said to have unusually broad white forehead-bands. Here, again, the palest mantle accompanies the broadest forehead-band. Six of these 13 males are as dark on the mantles as any British specimens and show scarcely any sign of white on the forehead. Wings 95 to 100, average 97·9. Culmen, 17, 18–19, 20.

Males from Egypt (all on passage).—38 examined. Wings 91, 92, 93–100, 101, 103. Culmens 16, 17–19, 20. Eleven have broad white forehead-bands. This series shows some curious facts.

a. The size of the culmen is not in proportion to the size of the wing, birds with the longest wings having nearly always the shortest culmens.

b. Birds with the broadest forehead-bands are on the large size in either wing or culmen, three having wings of 100 mm., and five others have culmens of 19 mm.

c. The paler the mantles the broader the forehead-band, but a broad forehead-band does not necessarily mean a pale mantle.

Males from Tropical East Africa (all in winter quarters).—27 examined. Wings 94–99, 100, 101, 102, and 104. Culmens 18–19·5, 20, 20. Only one has a broad white forehead-band. All mantles are normal.

I conclude therefore that :—

1. The races *nivea*, *rostrata*, and *argentea* are not sufficiently well founded and must become synonyms of *Œnanthe œ. œnanthe*.

2. *Œnanthe œ. œnanthe* in the southern part of its range, in the Mediterranean, Syria, Palestine and Turkestan, tends to have a larger percentage of large-billed, or long-winged, or white-foreheaded, or paler mantled individuals than birds breeding in the west of Europe, but that these characteristics are seldom all present in the same individual, neither are they by any means constant within any definite area. It is however possible that somewhere in Siberia a long-winged, pale foreheaded and mantled bird will be found breeding, and that these characteristics will be constant within a definite area.

3. The only races of *Œnanthe œnanthe* which I therefore recognize are :—

		Wing of males.	Culmen.
œnanthe	Europe and Asia	93–99, rarely to 104.	16–19, rarely 20.
leucorrhoa	Greenland, etc.	102–110	16–18
seebohmi	Algeria and Morocco..	92–98	17–19
virago	Crete	89–95	19–20
phillipsi	Somaliland.....	78–83, 87	16–18

Œnanthe deserti Temm.

At Sollum, on the coast of western Egypt, I collected in January a series of eight birds which prove to be *homochroa* (Tristr.). A male in spring plumage which I shot near the Pyramids proves to be the same form. They were not uncommon there in late March, but appeared to be on passage somewhere, as they were not there throughout the winter nor were they there during April or May.

Birds collected in winter west of Cairo (between Suez and Cairo, where they breed) are *Œ. d. deserti*.

Nicoll (Handlist Birds of Egypt, p. 3) is in error when he says *atrogularis* (=*albifrons* Brandt) occurs within Egyptian limits. In Egypt west of the Delta *homochroa* occurs, and east of the Delta *Œnanthe d. deserti* occurs.

Œnanthe d. atrogularis (rectius *albifrons*) occurs as a winter visitor to the Sudan, Arabia, and Somaliland from November to March, and I can find no record of its occurrence in Egypt. Birds from southern Arabia and northern Somaliland, all winter birds, appear browner and darker than topo-typical specimens, which is probably due to their fresh plumage.

Œnanthe mœsta Licht.

I found this essentially desert-loving Chat quite common in October in the Syrian Desert, 40 miles east of Damascus, and again near Sollum in western Egypt in January.

Its flight differs from that of all other Chats I have seen, in being of a fluttering and very undulating nature. At Sollum in January it was in exquisite song.

Œnanthe lugens lugens Licht.

This bird is quite a common resident in the desert country fringing the Egyptian Delta. It is absent from Siwa Oasis, Sollum, and Mersa Matruh in western Egypt. It also occurs at Suez on both sides of the Canal.

In Palestine very few are resident on the summit of the Judæan highlands, but they are quite common on the lower eastern slopes of the Judæan hills down to below sea-level

in the Jordan Valley. Absent from the western slopes of the Judæan hills.

It again occurs as a sparse resident in the foothills of the Anti-Lebanon west of Damascus. Not noted elsewhere in Palestine.

Seven clutches of 3 to 6 eggs were found near Jericho and Jerusalem from 18. iii. to 19. iv.

Œnanthe leucopyga leucopyga (Brehm).

This bird is a very common resident in Siwa Oasis, where it is most confiding, breeding in houses and mud-walls. Birds were singing in January.

I again found it not uncommon in the deserts east of the Egyptian Delta, confining itself to the most inhospitable ravines. Here it was extremely wild.

It again occurs in the desolate ravines surrounding the Dead Sea. Here I found a nest with two eggs on 30. iv.

In all the above localities birds in all stages, from pure white to pure black heads, were equally common.

SAXICOLA RUBETRA.

Saxicola rubetra rubetra (L.).

Of 21 winter birds from Kenya Colony, 17 are of this typical race and 4 are *spatzi*.

Birds commence to arrive in eastern Africa towards early October, and become fairly common by the end of that month throughout the country from Uganda and the Victoria Nyanza to Nairobi. Between Nairobi and the coast they are not so common. Birds commence leaving for the north in late February and throughout March, my latest record being on 31. iii. at Kisumu on the Victoria Nyanza. Four birds from Somaliland, shot in September, April, and May, belong also to the typical race.

Saxicola rubetra spatzi (Erl.).

Four obtained at the north-east corner of the Victoria Nyanza in March.

SAXICOLA TORQUATA.

It may be useful to review briefly the various geographical races of the Stonechat.

Saxicola torquata leucura.

Pratincola leucura Blyth, Journ. As. Soc. Beng. xvi. 1847 : Sind.

Seven examples examined.

This race is the palest of the group.

Male. Nearest to *maura*, but in fresh autumn plumage with broader and paler edgings to the feathers of the wings and upper parts. Upper tail-coverts unspotted white with a few yellowish margins on the feathers. Tail with even more white than in *maura*, the outer rectrices being white with merely brown tips. Axillaries black with broad white edgings. On the lower parts the chestnut of the breast is paler than in any other race except *stejnegeri*, and is confined to the upper half. Abdomen white. The border line between the chestnut and black on the breast is occasionally intermixed with a few white feathers, and the white patches on the sides of the neck come well forward on the breast.

Female. Upper parts brownish grey and not reddish brown, therein differing from all other forms. Under parts paler than in any other form, throat white, remainder of under parts only slightly tinged with pale chestnut.

Wing of males 66–70, culmen 14 mm.

Occurs in winter in Assam, Burma, Tenasserim, and throughout the north-eastern portion of the Indian Peninsula. It is a straggler to Sind.

Through the kindness of Mr. S. L. Whymper I have obtained the following information about the breeding range of this race :—They do not breed in the Himalaya proper but in the Kumaon Terai and Bhaber, and have not been observed breeding in either the hills or plains of India.

Saxicola torquata indica.

Pratincola indica Blyth, Journ. As. Soc. Beng. xvi. 1847, p. 129 : India.

Pratincola albosuperciliaris Hume, Stray Feathers, i. 1873, p. 307. (Also see Hartert, J. f. O. 1910, p. 174.)

Male. Similar in every respect to *maura*, except that the base of the tail never has more than 11 mm. of white, and the outer tail-feather seldom has any white at all or only a slight patch of one or two millimetres. Upper tail-coverts white with a few yellowish fringes (never spotted with brown as in *rubicola* and *hibernans*). Axillaries black with small white fringes. The whole under surface is suffused with chestnut, paler on the abdomen and to a variable degree of intensity on the breast.

Female. As in *maura*, except for the much larger amount of white at the basal portion of the latter's tail. Throat from almost whitish to pale fulvous. Remainder of under parts dull chestnut.

Wing of males 67–71, culmen 13–14 mm.

Breeds in western Siberia, on the Petchora, in the southern Urals and Tian Shan, scarce round Orenberg, on the Khirgiz Steppes and in Trans-Caspia and western Turkestan. Breeds commonly in the Himalayas from Gilgit and Cashmir to Sikkim, also in the Kurram Valley and at Quetta. Has also been recorded as breeding in the Elburz Mountains of northern Persia.

Winters in Afghanistan and India. Has straggled to the Andamans. Obtained in Norfolk in September 1904, and in Fife in October 1913.

Saxicola torquata stejnegeri.

Pratincola rubicola stejnegeri Parrot, Verh. Orn. Ges. Bayern, viii. 1908, p. 124 : Iterup and Yesso in northern Japan.

Male. Upper parts darker than either *maura* or *indica*, this being especially noticeable in the female. Tail as in *indica*, with little or no white at the base of the outer rectrices. Upper tail-coverts white with broader yellowish edgings than in either *maura* or *indica*. Axillaries as in *maura* and *indica*. Under parts very similar to *indica*, but if anything slightly darker.

Female. As in *indica*, but slightly darker.

Wing of males 67–70, culmen 13·5 to 14·5 mm. The bill is broader and stouter than in *maura* or *indica*.

Breeds in eastern Siberia east of the Lena River and Altai Mountains, in Trans-Baikalia, Ussuri Land, and on the Amur, in Manchuria, northern China, Saghalien, in the Kuriles, and apparently throughout the hills of Japan.

Winters in the Riu Kiu Islands, in southern China, Formosa, Hainan, Burma, Siam, and Assam, being the prevailing winter Stonechat in the latter country. Also in north-east India, where it is scarce.

Saxicola torquata przewalskii.

Pratincola maura var. *przewalskii* Pleske, Wiss. Res. Przewalski's Reisen, Vögel, i. 1889, p. 46 : Kansu and eastern Turkestan.

Similar to *stejnegeri*, but slightly darker underneath and larger. Axillaries with scarcely any white edgings. Wing of males 72–75, culmen 15 mm.

Breeds in Kansu and on the northern slopes of the Russian hills in eastern Turkestan. A fairly common summer visitor to Tibet.

On migration and in winter in China and the eastern parts of the Indian peninsula, also at Gilgit and Kumaon in the Himalayas. Has occurred in Siam.

Saxicola torquata maura.

Motacilla maura Pallas, 1773 : Ural River and between Tobol and Irtysh Rivers.

Saxicola hemprichii Ehrenberg, 1832 : Egypt.

14 examined.

Male. The feather edgings of the upper parts are paler than in *rubicola* or *hibernans*. Upper tail-coverts white with a few yellowish fringes, never with brown spotting as in *rubicola*. The basal half of all the outer rectrices white, the outer web being sometimes entirely white. The chestnut of the under parts is more confined to the breast than in *indica* or *stejnegeri*, and thus it more closely resembles *rubicola*. Abdomen usually white but sometimes washed with pale

chestnut. Axillaries black with much narrower white fringes than in *rubicola* or *hibernans*.

Female. Generally paler above and below than in *indica* or *stejnegeri*, and more as in *rubicola*.

Wing of males 69–77, culmen 13 mm.

Central and southern Urals, where it appears to meet *indica*, Astrachan and northern Caucasus, and in south-west Persia near Shiraz.

Winters in north-east Africa, southern Arabia, Abyssinia, northern Somaliland, the Sudan, and on the Red Sea. A few appear to winter at Basra, at the head of the Persian Gulf. No Palestine record, and is but an occasional straggler to Egypt.

Saxicola torquata rubicola.

Motacilla rubicola Linnæus, Syst. Nat. 12th ed. 1766, p. 332 : Europe.

Male. Upper tail-coverts white with a few dark brown streaks. Base of tail black. Axillaries black with narrow white fringes. Under parts with the chestnut usually confined to the breast; abdomen white, but occasionally birds have the whole lower parts washed with chestnut as in *hibernans*.

Female. Under parts as in *maura* or slightly darker.

Wing of males 64 to 70, culmen 14–15 mm.

Birds from Crete have culmens up to 17 mm. Birds from north-west Africa appear to lose the brown edging to the feathers of the upper parts quicker than others from continental Europe, and therefore in comparing birds of the same dates from these localities, those from north-west Africa appear blacker ; but in fresh autumn plumage there is no difference. (See also Hartert, J. f. O. 1910, p. 173.)

Continental Europe from southern Sweden and Norway, where it is rare. In Germany it is more plentiful in the west than in the north. Very rare in Pomerania. Breeds in Poland, absent from Finland and northern Russia but in central and southern Russia it apparently breeds east to about the Volga Valley. Throughout southern Europe

(except Portugal), where it is confined to the hills. Breeds in Greece, Crete, Sardinia, and Sicily, but apparently not in Cyprus. Also in Morocco, northern Algeria, and northern Tunisia.

A very common winter visitor to Cyprus, Syria, Palestine, and the north coast of Africa from the middle of October to March ; common in the Siwa Oasis in January.

They do not appear to pass far into Africa in winter, and fail to reach the Sudan, where all winter visitors are *maura* (Sclater & Praed, Ibis, 1918, p. 685). They have been obtained in the Yemen in December and January (Novit. Zool. 1917, p. 460). Reichenow records winter birds from Kikuyu, Nandi, and Naivasha to Kenya Colony, but all my specimens from east Africa are *axillaris*.

Saxicola torquata hibernans.

Pratincola t. hibernans Hartert, J. f. O. 1910, p. 173 : Tring, England.

Male. Upper parts in fresh autumn plumage with much broader red fringes than in *rubicola*. In worn plumage these fringes seldom wear off to the extent they do in *rubicola*, with the result that one very rarely finds birds in summer with pure black backs. Upper tail-coverts, base of tail, and axillaries as in *rubicola*. The whole of the under parts are covered with chestnut, abdomen never white as in *rubicola* : the chestnut is usually darker than in *rubicola*.

Female. Generally redder on both upper and under parts than *rubicola*.

Wing of males 66–68, culmen 14 to 15 mm.

Resident in Scotland, Outer Hebrides, Ireland, and Britain. Birds from Oporto (Portugal) appear to belong to this race (Witherby, Bull. B. O. C. xxxix. 1919, p. 48).

Saxicola torquata jebelmarræ.

Saxicola t. jebelmarræ Lynes, Bull. B. O. C. xli. 1920, p. 17 : Jebel Marra, Darfur.

Male. Differs from *maura* in having much darker brown edgings to the feathers of the upper parts, and in having the

base of the tail almost entirely black. Differs from *sibilla* and *axillaris* in having broader brown edgings to the feathers of the upper parts. Upper tail-coverts pure white. Axillaries black with narrow white edgings. The chestnut of the under parts is of a darker tint than that of any Palæarctic form, and is confined to the breast and flanks. Centre of lower breast and abdomen white.

Female. Under parts very similar to *maura* and *sibilla*, but generally paler than *rubicola*.

Wing of males 70–71, culmen 14 mm.

So far only known from the Darfur Hills in the western Sudan.

Saxicola torquata sibilla.

Motacilla sibilla Linn. Syst. Nat. 12th ed. 1766, p. 337 : Madagascar.

Male. Very near *axillaris*, but smaller and with almost pure white axillaries. There is also much less white on the upper tail-coverts than in *axillaris*, the black of the lower back extending on to the rump. Under parts with much more chestnut than in *axillaris* and much less than in *salax*.

Female. Very near *jebelmarræ*.

Wing of males 63–66, culmen 14–15 mm.

Madagascar and Comoro Islands.

On the neighbouring island of Reunion occurs *Saxicola borbonica* (Bory de St. Vincent, 1833), a distinct species with a white eye-stripe, white chin, and a broad massive bill, but otherwise not unlike the *torquata*-group.

Saxicola torquata pallidigula.

Pratincola pallidigula Reichenow, J. f. O. 1892, p. 194 : Cameroon Mountain.

Two examined.

Male. Upper parts very dark, and in worn plumage with an almost steel-black sheen. Upper tail-coverts pure white. Tail black at base or with a millimetre or two of white. Axillaries black narrowly tipped with white. The chestnut of the under parts is as in *axillaris*, but the colour is if anything darker and richer and more like *jebelmarræ*, but the

chestnut is much more confined than in this latter race. Flanks and abdomen white.

Female. Much darker than *salax* and nearest to *albofasciata*. The chestnut on the under parts is confined to the breast, the abdomen and flanks being white. The throat of the female is also darker than in either *salax* or *axillaris*.

Wing of one male 68, culmen 15. Hartert (J. f. O. 1910, p. 176) gives wings as 73 to 82·5 mm.

Cameroon and the hills of Fernando Po.

Saxicola torquata axillaris.

Pratincola axillaris Shelley, Proc. Zool. Soc. London, 1884, p. 556: Kilimanjaro, 7000 ft.

Pratincola emmæ Hartlaub, J. f. O. 1890, p. 152: Ruganda; also Ankole in S.W. Uganda. Type examined.

Male. Differs from *salax* in having black axillaries with very narrow white fringes. Upper tail-coverts pure white. Tail usually entirely black at its base with perhaps occasionally a millimetre or two of white. The chestnut of the under parts is more confined to the breast than in *salax* and is merely a chestnut spot below the black throat, which is sometimes so confined as to be almost lacking, thus forming a link between the chestnut-breasted forms and *albofasciata*. Rest of under parts pure white.

Female. As in *salax*.

Wing of males 68–73, culmen 14–15 mm.

Inhabits the whole of Uganda and the Belgian Congo immediately west of Lake Tanganyika, Lake Kivu, Kenya Colony round Kisumu, Nakuru, Naivasha, Kikuyu, Nairobi, and Kilimanjaro. In the Nandi country (north-east of the Victoria Nyanza) birds appear to approach *albofasciata*.

Saxicola torquata albofasciata.

Saxicola albofasciata Rüppell, Syst. Ueb. 1845, p. 39: Simen Province, Abyssinian highlands.

Male. Whole upper parts as in *axillaris* and *salax*. Upper tail-coverts white. Axillaries entirely black. Tail entirely black, with occasionally a small white spot at the base of the

central rectrices. Under parts completely lacking the chestnut below the black throat, but the lower edge of this black is frequently fringed with chestnut tips to the black feathers. Abdomen, flanks, and lower breast white.

Female. Very dark as in *pallidigula*, and much darker than *axillaris* or *salax*.

Wing of males 66–75, culmen 14–15 mm.

The highlands of Abyssinia. It will be interesting to see to which race belong birds from Mount Elgon.

Saxicola torquata salax.

Pratincola salax Verreaux, Rev. et Mag. Zool. 1851, p. 307 : Gaboon, West Africa.

Specimens from the type locality not examined.

Male. Upper parts very dark with only slight brown edgings to the feathers, which appear to wear off very quickly and leave a jet-black crown and back. Upper tail-coverts pure white. Axillaries smoky-brown with broad white margins. Tail from pure black at base to a varying amount of white, sometimes as much as occurs in *maura*. The chestnut of the under parts extends much lower than in *axillaris* and frequently reaches the flanks as in *robusta*, but on the whole it is a much whiter bird below than this latter race.

Female. Above almost as dark as *pallidigula* and much darker than *jebelmarræ* or *robusta*. Under parts darker than *jebelmarræ*, and not unlike *robusta* but with a darker throat. The whole of the chestnut of the under parts is uniform on breast and abdomen, whereas in *axillaris*, *jebelmarræ*, *pallidigula*, and *sibilla* the chestnut of the breast is of a darker tint than that of the abdomen.

Wing of males 64–71 mm., culmen 14.

Gaboon and northern Angola.

Saxicola torquata torquata.

Muscicapa torquata Linn. Syst. Nat. 12th ed. 1766, p. 328 : Cape of Good Hope.

Male. The chestnut on the under parts only covers to about half-way between the black of the throat and the vent, and does not extend to the flanks.

Female. Chin and throat white in contrast to the rufous breast. Under parts pale chestnut, with a white patch in the centre of the abdomen.

The neighbourhood of Cape Town and Namaqualand.

Saxicola torquata robusta.

Pratincola robusta Tristram, Ibis, 1870, p. 497 : "Mysore" in error. I cite terra typica as Natal.

Pratincola t. orientalis Sclater, Ibis, 1911, p. 409 : Umfolosi, Zululand.

Male. Upper parts as in *salax*. The chestnut on the breast extends over the flanks and leaves a small indistinct patch of white in the centre of the abdomen. Axillaries black broadly fringed with white.

Female. The whole of the under parts are uniform pale chestnut with no white patch on the abdomen and closely resemble the under parts of *salax*. Throat not so dark as in *salax*, but not whitish as in *torquata*.

Southern and eastern Cape Colony, Knysna, Port Elizabeth, Pondoland, Natal, Zululand, Transvaal, Lake Ngami in Bechuanalaud, Mashonaland, southern Angola and Nyasaland to the north end of Lake Nyasa.

Wing of 18 ♂ ♂ 68–75, culmen 14–14·5 mm.

I have examined the type of *Pratincola robusta*. The bird is an adult male in worn plumage. On the original label is "Mysore." Tristram's description is misleading, as the abdomen is white and not red (Tristram says "*abdomine rufo nec albido*"). The specimen most closely resembles *orientalis* but is slightly larger, having a wing of 76 mm. and a culmen of 15·5 mm.

The bird is far removed from any palæarctic race, as was realized by Oates (Fauna Brit. India, ii. p. 58), who also examined the type of Tristram's *robusta* and thought it identical with the larger (*sic*) Bush-Chat of Madagascar, in which opinion Sharpe and Tristram concurred. Oates goes on to say that there are two Bush-Chats in Madagascar, agreeing in coloration but differing in size. This is again most confusing, for in the first place there is only one Bush-

Chat (*Pratincola*) in Madagascar, namely *sibilla*, and in the second place Tristram's *robusta* does not agree with *sibilla*, in which race the chestnut is confined to the chest and never extends to the flanks. In Tristram's type the chestnut extends to the flanks as in *orientalis*. I am therefore compelled to accept *robusta* as the oldest name for this race, and am convinced that the specimen (collected by H. E. Fox) never came from Mysore at all but from South Africa.

Tristram also made a second type of *robusta*, to which he also refers ('Ibis,' *ibid.*). This is undoubtedly a male *przewalskii* in fresh autumn plumage, but cannot in any sense be admitted as a type, as the "Mysore" bird is the one described.

Hartert, in his review of the genus *Pratincola* (J. f. O. 1910), accepts Oates' opinion of *robusta*, but he had not then seen the type.

PHŒNICURUS PHŒNICURUS.

Phœnicurus p. phœnicurus (L.).

Common on autumn passage in October at Damascus, and during November in Jerusalem.

In western Egypt, a few were seen at Mersa Matruh in January. Spring passage in the Egyptian Delta in 1920 occurred between 20. iii. and 18. iv.

Phœnicurus p. mesoleuca (Hemp. & Ehr.).

Common on autumn passage at Damascus in late September.

PHŒNICURUS OCHRUROS.

Phœnicurus ochruros ochruros (Gmel.).

A not uncommon winter visitor to Palestine, where I obtained birds at Jericho on 22. ii., at Jerusalem on 21. xi., and saw others at Jericho in October.

Phœnicurus ochruros gibraltariensis (Gmel.).

The commonest winter Redstart to Palestine, the latest spring record being on the Sea of Galilee on 9. iii. Also a not uncommon winter visitor to Egypt and the Egyptian Coast west to Sollum, where I saw several birds in late January.

Phœnicurus ochruros semirufa (Hemp. & Ehr.).

I obtained a male at Jerusalem on 24. xi. and saw another on the Sea of Galilee on 9. iii. Doubtless a few wander south during winter. The type came from Egypt, whence it has not since been obtained.

Luscinia megarhynchos africana Fisch. & Reichw.

One obtained in the Taita Hills near Voi in Kenya Colony in December. In addition to this specimen other winter birds are known from near Kilimanjaro, southern Arabia, and N. Somaliland.

In all there are 13 Nightingales in my African collection, all the others being *Luscinia luscinia*.

Brig.-Gen. Clarke found a Nightingale breeding commonly at Aleppo in 1919, and thought it was *Luscinia m. golzi*. I have not seen any Aleppo specimens. Weigold (J. f. O. 1913, p. 2) records both *golzi* and *africana* as stragglers to Urfa in north-west Mesopotamia and not far from Aleppo, and he also records *L. m. megarhynchos* as possibly breeding at Aleppo, having obtained them in spring up to early May. It seems probable that Clarke's birds were also of the typical race.

HIRUNDO RUSTICA.

Hirundo rustica rustica L.

I am only dealing with the migration of the Swallow in the Near East and eastern Africa.

Breeds in Armenia, Asia Minor, Crete and Cyprus, though in the latter country birds are said to intergrade (*sic*) with *savignii* (Bucknill, Ibis, 1910, p. 2).

They were common at Damascus on 8. ix., at Baalbek on 10. ix., and at the south end of the Sea of Galilee on 7. ix., but I cannot say whether they had bred there or whether they were early migrants. They are said to interbreed with *transitiva* in the Galilee District. I found no old nests. But Swallows flood the whole of Syria and Palestine from early September to the end of October, and I noted flocks passing south at Jericho on 19. x. and as late as 27. xi. I doubt if any birds winter in Palestine.

In Armenia the passage of northern migrants occurs from the middle of August to the middle or end of October. Birds commence arriving in Egypt in early September and passage continues till early October; none winter in the Egyptian Delta, but I saw a small flock at Siwa Oasis on 26. i.

Most birds have left Cyprus by the middle of October.

Birds commence arriving in Abyssinia from early September, and large flocks were seen crossing the Red Sea just north of Port Sudan on 2. x. A few winter in Abyssinia. Both adults and birds of the year arrive in Somaliland towards the end of September.

I have no records of the autumn arrival of Swallows in the Sudan, though many appear to winter there.

In tropical eastern Africa my first autumn record is on 30. ix., and they become numerous by 3. x., birds still passing south throughout the month. My latest record of southern passage is on 1. xi. near Mombasa, when large flocks passed throughout the afternoon.

Birds commence arriving at Bulawayo in Rhodesia in the middle of October, and at Beira on the coast of Portuguese East Africa about 17. x.

Birds have been obtained in southern Arabia on 17. x.

The Swallow is abundant in the Transvaal, Natal, and Cape Colony from November to February. Those wintering in Natal do not move north again till early April. It is noteworthy that all British "ringed" Swallows have occurred in Natal and not elsewhere in South Africa. Are these the birds which leave in early April?

My first African record of spring passage is on the Serengeti Plains between Nairobi and the coast, from 31. i. to 2. ii., when a continual passage north was noted from dawn to 10 A.M. each day. On 7. ii. and 21. ii. parties were noted moving north in Rhodesia, and a few arrived in north-west Arabia as early as 16. ii.

In Cyprus, probably the most southerly breeding limit of this Swallow in the Near East, they arrive abundantly in the third week in February, and breed in the

middle of March, when others are still wintering in Natal.

During the first few days of March birds commence arriving in Palestine. They were common at Halfa and on the Sea of Galilee on 4. iii.; and on the same date I have seen thousands passing north over the Athi Plains in Kenya Colony.

The bulk of winter visitors to Rhodesia leave for the north about 12. iii., a few remaining till 28. iv., whilst birds have been obtained at Beira on 15. iv.

Winter visitors to the Sudan leave about the middle of March, a late record being on 17 . v. at Khartoum, whilst my last spring record for Kenya Colony is on 30. iii. at Kisumu on the Victoria Nyanza. But at Old Moshi on Kilimanjaro in early June a pair of birds put in an appearance and actually roosted in my office. As they showed no inclination to breed I secured both birds, male and female, and their organs showed that they neither had nor intended to breed that summer.

In Sinai first spring arrivals have been noted at Akaba on 6. iv. and were still passing till 30. iv. Northern passage over the Red Sea has been observed on 20. iv. and 23. iv., whilst Swallows are reported common at Port Sudan throughout May.

Spring passage in Egypt occurs from about 11. iv. to 1. v., and was at its height between 14. iv. and 18. iv. in 1920. Birds are seldom seen on spring passage before 5. iv., though late migrants can be seen at Suez and Cairo till 20. v. Northern passage has been observed at sea off Alexandria from 4 v. to 7. v.

Besides the earlier arrivals to Palestine noted above, I saw strong passages of north-bound Swallows at Jericho from 29. iv. to 2. v. and at Jerusalem on 1. v.

Birds commence arriving in Crete on 25. iii. and were still on passage on 29. iv.

In Armenia they are common on passage from the end of April to early May.

Hirundo rustica transitiva Hartert.

This race is by no means easy to distinguish from individuals of the typical race which have red under parts, but the latter is never quite so dark underneath and the under tail-coverts—the best guide—are invariably darker in *transitiva*.

This race breeds in a very confined area, namely at Afule in the Plain of Esdraelon, at Acre and Haifa, and in the coastal Plain of Palestine south to Gaza, but apparently not in the Judæan highlands or Jordan Valley. In the Galilee district it begins to meet and interbreed with the typical race. I saw a few Swallows at Aleppo on 10.ix. which appeared to be of this race, but no examples were obtained.

I am convinced that this race is a partial migrant, for (Ibis, 1920, p. 230) I have seen them on passage in the autumn going south-west from Gaza. I have now obtained an undoubted bird from Cairo on 21.xii., and there is another in the Tring collection obtained in Uganda in February. In the 'Auk' (1915, p. 283) a bird assigned to this race was recorded by Phillips from Sinai on 13.iv. The Palestine Swallow, being a very small community among the hosts of other swallows which visit Africa every winter, might easily be overlooked.

It is noteworthy that Schmitz (Orn. Monatsb. 1921, p. 13) records them as only summer visitors to the Sea of Galilee.

Hirundo rustica savignii Stephens.

The breeding race of the Egyptian Delta, Suez, and the Suez Canal. Zedlitz (J. f. O. 1912, p. 360) records it from El Tor in Sinai in January, April, and May. In the spring of 1920 I found no Swallows breeding at Alexandria.

The wing measurements of the above three races are :—

rustica.	♂♂ and ♀♀	118–127 mm.
transitiva.	„ „	111–126 mm.
savignii.	„ „	111–123 mm.

Riparia obsoleta (Cab.).

I have examined fourteen specimens from Egypt, obtained at all seasons of the year. In colour they are distinctly paler

than a series of twelve from eastern Persia and Baluchistan, with one exception, a bird from Helouan which I obtained in February, which is as dark as any from eastern Persia. But my other birds from Helouan are all pale.

Birds from Palestine are somewhat intermediate in colour between Egyptian and eastern Persian birds.

Two birds collected by Witherby from south-west Persia are very pale, and appear to be in worn plumage, but are no paler than March birds from Egypt.

Zedlitz (J. f. O. 1910, p. 786) recognizes *Riparia o. obsoleta* (Cab.) from Persia, the hills of Palestine and northern Arabia, Sinai, and the Egyptian hills; *R. o. reichenowi* Zedl. from the desert regions of Egypt and east to Palestine; *R. o. arabica* Reichw. from southern Arabia, and *R. o. rufigula* from southern Abyssinia and eastern Africa.

Hartert (Vög. pal. Faun. p. 816) unites birds from eastern Persia, Palestine, Arabia, and Egypt under *R. o. obsoleta*.

I am, however, inclined to think there is a pale race in the desert regions of Palestine, northern Arabia, and Egypt, and that this race must be called *R. o. obsoleta*, and that the name *pallida* of Hume must apply to Baluchistan and eastern Persian birds.

Birds from Aden, north Somaliland, and Socotra are darker than Egyptian or Sinai birds and are probably *arabica*, but I have not examined topo-typical specimens.

The wings of	11	birds from	E. Persia	measure 117–123 mm.
„	16	„	Egypt	measure 114–121 mm.
„	4	„	Palestine	measure 117–122 mm.
„	2	„	N. Somaliland	measure 113–115 mm.

Zedlitz gives the wings of four birds from Suez as 114–119 mm.

Apus melba (L.).

I have recently collected a series of ten Alpine Swifts from Palestine and Crete. They are all of a paler and greyer colour above than those breeding elsewhere in southern Europe and the Himalayas. They agree more with breeding birds from northern Africa which have been separated by

Tschusi (Orn. Jahrb. xv. 1904, p. 123) as *Apus melba tuneti* from Tunisia. But I should like to see more breeding birds from Tunisia and Algeria before agreeing to this separation.

Then arises the question as to which race the name of *melba* applies. Linnæus named the bird after a figure by Edwards (Plate 27) of a bird from Gibraltar. The colour of this bird is particularly dark, even darker than most birds from southern Europe, and I consider the name *melba* must therefore apply to the southern European race. I have not examined breeding birds from Gibraltar, which may belong to either the typical race or *tuneti* from northern Africa.

If *tuneti* is separable, then the name would appear to apply to birds breeding in northern Africa, Somaliland, Arabia, Crete, Palestine, and east to Persia, but not to Baluchistan and Himalayan birds. Birds from southern India and Ceylon appear to be even darker than others from southern Europe and the Himalayas, and may need separation. Blanford (Fauna Brit. India) states they perhaps breed in Ceylon. I have seen large breeding colonies on the eastern escarpment of the Nilgiri Hills, but failed to collect specimens.

But a female in the British Museum collected at Deesa in Central India on 1 October, 1875, is as pale as others from Somaliland, Algeria, etc.; whilst a bird from Ceylon in the Tring collection is particularly dark.

An examination of the series in the British Museum, comprising birds from southern Europe, Himalayas, Palestine, Crete, south India, and Ceylon shows that individual variation is great, and without a series of breeding birds from the various localities, it is impossible to say whether there really exists more than one race in southern Europe, Asia, northern Africa, Arabia and Somaliland.

APUS APUS.

The Swifts of this group have been sorely mutilated by modern ornithologists, more especially those races which occur in the Ethiopian Region. Any slight individual

variation seems to have been an excuse for subspecific separation. Perhaps in thinking I am assisting in disentangling the apian knot, I have still further confused the issue, but I believe I am correct in my deductions. Like bishops, Swifts are always interesting, but sometimes disappointing.

Apus apus apus (L.).

Cypselus aterrimus Heuglin, J. f. O. 1861 : Abyssinia.

Cypselus balstoni Bartlett, P. Z. S. 1879 : Madagascar.

Apus a. kollibayi Tschusi, Orn. Jahrb. 1902 : Dalmatia.

Apus a. carlo Kollibay, J. f. O. 1905 : Tunis.

Back dark sooty-black, with an oily-green sheen, which in a dull light shows almost blue. Some birds, especially in summer, almost lack any blue or green sheen and appear brownish. Primaries black with a steel-blue sheen on the outer web, and an oily-green sheen on the inner web. Head sooty-brown, the forehead with occasionally some paler edgings to the feathers. Chin greyish white to almost pure white, with or without darker shaft-stripes.

Wing of males usually between 170 and 180 mm., and of females between 164 and 176 mm.

The differences assigned to *kollibayi* and *carlo* are not constant within their supposed breeding areas, and their supposed characteristics occur regularly within the range of both British and northern European Swifts.

The typical race of the Swift breeds in Europe east at least to southern Russia (Sarepta), Macedonia (Monastir), Bulgaria and Serbia, Italy and Crete. Also in Morocco, Algeria, and Tunisia.

In winter it occurs regularly throughout Africa south to the Cape and Madagascar. I shot three birds at Korogwe in Tanganyika Territory on 3. ix. from a large flock passing south.

Apus apus pekinensis (Swinh.).

Cypselus pekinensis Swinhoe, P. Z. S. 1870 : Pekin.

Apus apus marwitzi Reichw. Orn. Monatsb. 1906 : Wembere Plains in central Tanganyika Territory.

Apus a. kalaharicus Reichw. Orn. Monatsb. 1906 : Kalahari Desert, South Africa.

Upper parts paler and browner than in *A. a. apus*, frequently almost lacking the dark patch in the centre of the back. Head paler, especially on the forehead, the feathers often having paler fringes. Primaries and tail as in *A. a. apus*, but usually paler. In worn plumage birds become much browner, losing most of the blue and green gloss on the back. The white on the chin is frequently purer and reaches further down the throat than in *A. a. apus*. Shaft-stripes on the chin-feathers are less frequent than in *A. a. apus*.

Wing of males 165 to 180 mm., and of females 163 to 177 mm., once 180 mm.

Some breeding birds from Palestine appear to approach the typical race, but the majority are pure *pekinensis*. The race *marwitzi*, having been described from a winter bird, has no typical breeding locality. All so-called *marwitzi* which I have examined are indistinguishable from birds breeding at Pekin, in Persia and Baluchistan. As always happens, we find intermediate birds where the races *A. a. apus* and *A. a. pekinensis* meet, but no such intermediate forms are constant in any area from which I have examined birds ; I therefore prefer to treat *marwitzi* as a synonym of *pekinensis*.

This Swift breeds throughout northern Asia, at Quetta in Baluchistan, in eastern Persia, Caucasus, Armenia, Asia Minor, Palestine and Syria, and Cyprus. It has been obtained on passage at Gondokoro (southern Sudan) on 23.iii., in Egypt on 29.iv., and there is a female in my collection from the Victoria Nyanza shot on 2.iii., and one obtained by Archer in northern Somaliland on 15.ix.

Birds winter in India and Africa south to the Transvaal and Kalahari Desert. Perhaps a few winter in Palestine, for I saw some near Jericho in late February.

Palestine breeding birds arrive in the coastal area during the first few days of March, and at Jerusalem in the first few days of April. There are large breeding colonies at Jerusalem, Hebron, Nazareth, Tiberias, Nablus, and Jenin. First eggs laid at Jerusalem on 5.v.

Apus apus barbatus (Scl.).

In P. Z. S. 1865, p. 599, Dr. P. L. Sclater refers to two birds in the Leyden Museum which were obtained in South Africa, as being paler above than *A. a. apus*, particularly on the secondaries and scapulars. He assigns to them Temminck's MS. name "*barbatus*." He states that similar birds occur in Natal. Reichenow (Vög. Afr.) gives wing-measurements as from 170 to 185 mm.

There are three birds in the Tring collection from:

Newcastle (Natal) on 6 . xii.	Wing 195.
Natal (no date).	Wing 189.
No locality or date.	Wing 185.

And in the British Museum from:

Knysna, Cape Colony, Feb.; Cape Town, Nov.;
S.E. Transvaal, April; N.E. Transvaal, Nov.;
with wings varying from 174–185 mm.

These birds closely resemble *pekinensis* except that the under parts have more distinct paler fringes to the feathers, and the Newcastle bird shows very little white on the chin. The shaft-stripes on the chin-feathers are usually very distinct.

It seems probable that this is a South African resident race of *Apus apus*, though I can find no actual record of its breeding there. When I was in the Drakensberg in Natal and Basutoland in 1909, I frequently saw Swifts during the northern summer, but never found them breeding.

Cape Colony, Transvaal, and Natal.

Apus apus sladeniæ (Ogilvie-Grant).

Cypselus sladeniæ Ogilvie-Grant, Bull. B. O. C. xiv. 1904, p. 56: Fernando Po.

(Original description.) "Most nearly allied to *barbatus*, but general colour of upper parts darker, sooty-black in the interscapulary region; throat dusky with little or no trace of whitish. In *barbatus* the throat is white with very distinct shaft-stripes. Wing 185 mm."

Two specimens in the Tring collection from Fernando Po in January agree with this description and have wings of 175 and 178 mm., both being males.

This race differs from *A. a. apus* in its much darker (sooty-blue-black) mantle, and in having the chin sooty-whitish with no trace of anything approaching pure white. The feathers of the under parts seem to be always fringed with a paler colour.

Apus apus melanonotus Reichw.

Apus melanonotus Reichenow, Orn. Monatsb. 1907, p. 60 : Cameroon.

(Original description.) "Back generally deep black, somewhat duller on the neck and sides of the head. Forehead brown-black with scale-like edgings to the feathers ; rump black with a few narrow white edgings. Tail, upper tail-coverts, and wings black with a slight gloss. Upper wing-coverts dark brown, centre of throat greyish brown, chin whitish. Feathers of the under parts and under tail-coverts black with narrow white fringes. Wing 170 mm."

I have not examined specimens of this race. It may or may not be synonymous with *sladeniæ*.

Apus apus shelleyi (Salvad.).

Cypselus shelleyi Salvadori, Ann. Genova, 1888, p. 227 : Shoa, Abyssinia.

Apus roehli Reichw. Orn. Monatsb. 1906, p. 172 : Usambara, between Kilimanjaro and the Coast.

Apus nakuruensis Van Someren, Bull. B. O. C. xl. 1919, p. 58 : Lake Nakuru in Kenya Colony.

Salvadori's original description of *shelleyi* is as follows:— "Similar to *Apus apus* but smaller, with grey secondaries, the wings and tail having a greenish sheen. Generally of a slightly glossy sooty-black with a blackish back. Throat whitish grey. Primaries black with a slight greenish sheen, secondaries greyish umber. Tail dark with a greenish tinge. Wing 157 mm."

Reichenow (Vög. Afr.) gives the wing as 155 mm.

Reichenow's original description of *roehli* reads as follows :—"Differs from *Apus apus apus* in having the upper back nearly black, some feathers with black tips. Lower

parts black-brown, usually darker on the head, rump, and wings. The white throat-feathers have dark shaft-stripes. Wing 160 mm."

Van Someren's original description of *nakuruensis* reads as follows :—" Less greenish-black and smaller than *A. a. apus*. Whole upper side glossy blackish-brown, slightly darker on the mantle. Lores blackish. The whole of the underside, except the throat which is whitish, black. Primaries and primary-coverts blackish with a greyish tinge. Secondary-coverts paler, scapulars blackish. Wing 155 to 165 mm."

Now in examining these three descriptions there is really very little difference in them in either colour or size.

I have also examined Van Someren's type of *nakuruensis* and a co-type of *roehli* obtained in Usambara, the type-locality. The birds are very near, except that in *nakuruensis* the head of the specimen is pressed back into the body and shows little white on the throat, whereas in the co-type of *roehli* the head and neck are fully stretched and the white throat extends a long way. The centre of the back in the co-type of *roehli* has slightly more bluish-black than in Van Someren's type of *nakuruensis*. The wing of the co-type of *roehli* is 165 mm., and of the type of *nakuruensis* 158 mm.

There is another important point. *A. a. shelleyi* is not a brownish bird, except in worn plumage. This is clear from the original description. These pale brown birds of equal size to *shelleyi* are a race of *murinus* described from Somaliland as *somalicus* by Stephenson Clarke (Bull. B. O. C. xl. 1919, p. 49). The fact that *shelleyi* has been considered a pale brown bird appears to have originated in two skins in the Tring collection, which were obtained, one in Kavirondo on the Victoria Nyanza and one at Lake Nakuru. Both are labelled *shelleyi*, and both are very worn and just commencing to moult. But they are probably *A. murinus somalicus*.

I also understand that Van Someren found *shelleyi*, *roehli*, and *nakuruensis* all breeding in the same colony at Lake

Nakuru. Some birds I obtained at Nakuru in 1916 could certainly be assigned to either of the above races on their original descriptions, and I have no hesitation in placing *roehli* and *nakuruensis* as synonyms of *shelleyi*.

Apus a. shelleyi is a small edition of *A. a. pekinensis*. In fresh plumage the head and upper parts are as in *pekinensis*, but with slightly less sheen on the mantle. The centre of the back is more or less suffused with dark blackish-blue, which almost entirely wears off as the season advances. Scapulars much paler brown than in either *A. a. apus* or *pekinensis*. Primaries black with a bluish gloss on the outer web and an oily-green gloss on the inner web. Under parts and lower back with frequently paler scale-like fringes. Throat and chin white to dusky-white, the feathers always having darker shaft-stripes. Generally a much smaller bird than either of the preceding races.

I have examined the following birds :—

Sex.	*Locality.*	*Date.*	*Wing.*
♂	Nakuru	26. xii.	155
♂	Naivasha	20. x.	151
♂	Nakuru	14. v.	158 (type of *nakuruensis*).
♂	Nakuru	20. xi.	151
♂	Kavirondo	12. iii.	146
♀	Nakuru	20. xii.	154
♀	Nakuru	26. xii.	159
?	Usambara	?	165 (co-type of *roehli*).
♀	Nakuru	26. viii.	154
♂ ♂ ♂	Abyssinia	– iv. & – v.	148, 158, 161
♀	Abyssinia	?	148
♂	Naivasha	– v.	160
♀ ♀	Kikuyu, Kenya Col.	?	150, 154
♂	Kenya Colony	– iv.	150

This race apparently inhabits Abyssinia, and occurs at Naivasha, Kikuyu, Nakuru and Kavirondo, in Kenya Colony, and in the Usambara Hills between Kilimanjaro and the coast.

A Swift in the British Museum from Zomba in Nyasaland probably constitutes a further race of *Apus apus*, having a wing measurement of but 141 mm.

Apus apus toulsoni (Bocage).

Cypselus toulsoni Bocage, Jorn. Sciencias Lisboa, 1870, p. 339 : Loanda.

(Original description.) "Smaller than *A. a. apus*. Head and neck sooty-brown, forehead paler and throat whitish. Rump, upper tail-coverts, wings and tail sooty-brown with a slight greenish sheen. Inter-scapulary region, back and lower parts steel-black."

Reichenow (Vög. Afr.) gives wings as 152 to 154 mm. A specimen from Loanda, in the Tring collection, has a wing of 152 mm. Another from the Lower Congo, and now in the British Museum, has a wing also of 152 mm.

So this race is as small as *shelleyi*, from which it differs in its dark steel-blue mantle, much darker wings and wing-coverts, and darker tail and upper tail-coverts. The under parts are also much darker than in *shelleyi*.

Besides being at once distinguished from *A. a. apus* and *pekinensis* on size alone, the mantle of *toulsoni* is both darker and bluer than either of the two former races.

Cypselus niansæ Reichenow (J. f. O. 1887, p. 61), from Kagehi (S.W. of the Victoria Nyanza), is said to only differ from *Cypselus rüppelli* of von Heuglin (Orn. N.O.-Afr.) by its smaller size, wing 150 mm. Now *Cypselus rüppelli* is the same as *Apus æquatorialis* (v. Müller), a distinct species and nothing to do with the *Apus apus*-group.

Apus kittenbergeri Madarasz (Arch. Zool. 1910, p. 77), described from Ngare Dowash near Shirati on the south-east shores of the Victoria Nyanza, is said to connect the *æquatorialis*-group with the *Apus apus*-group. Original description—"Back black with brownish sheen. Lores black. Throat greyish-white, lower throat grey-black with spots or bars. Under tail-coverts with whitish edgings. Wing 175 to 180 mm." The bird in any case does not appear to belong to the *Apus apus*-group.

If it were not for the fact that Rothschild and Hartert had found *Apus murinus brehmorum* breeding alongside *Apus apus apus* in Algeria, the *murinus*-group could only be

considered as geographical races of the *apus*-group. The *murinus*-group are sometimes difficult to distinguish from worn specimens of *Apus a. pekinensis*, but can always be distinguished by having no trace of darker colour on the mantle, whereas no matter how worn *A. a. pekinensis* becomes, it always retains some trace of the dark mantle.

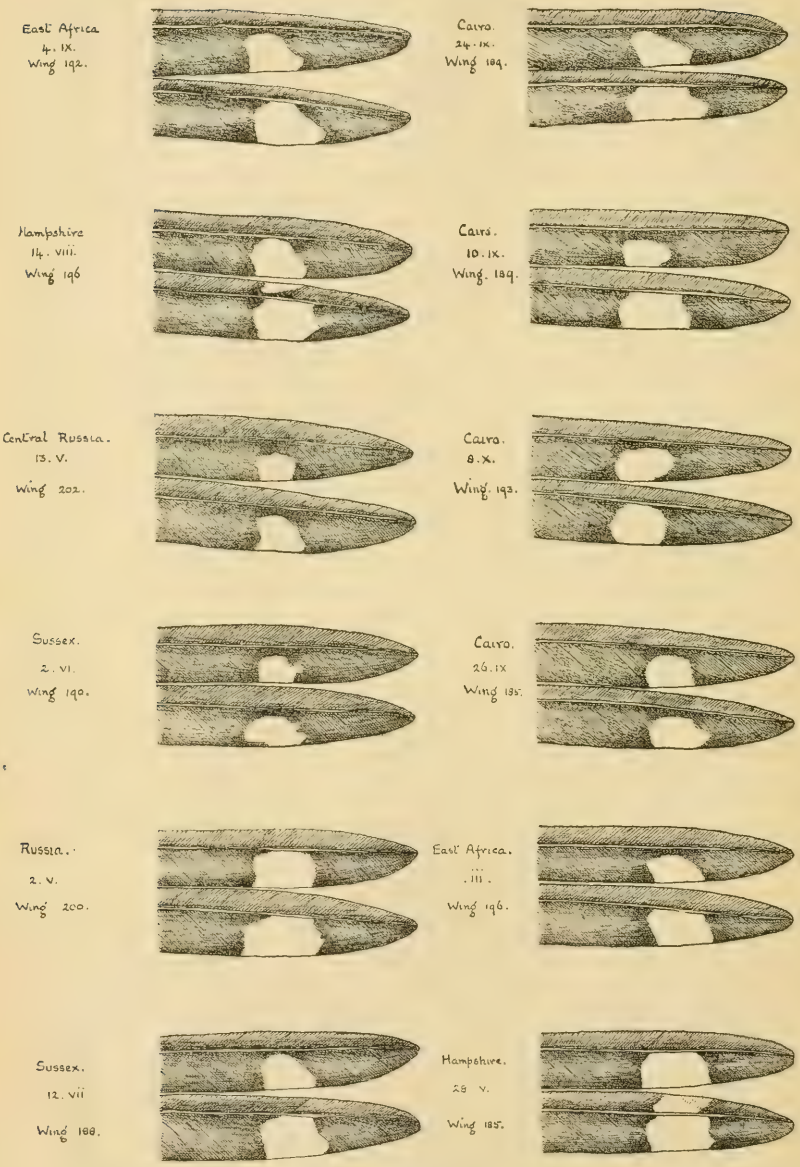
CAPRIMULGUS EUROPÆUS.

The Nightjars of the Mediterranean and Black Sea region have been separated as *meridionalis* on account of their smaller size and their usually paler and brighter plumage. I find that such birds can only be separated on size, and that on colour only about 60 per cent. have a paler plumage, whilst about 30 per cent. of northern and central European birds (*C. e. europæus*) have as pale a plumage as *meridionalis*. I cannot, therefore, regard the supposed paleness of *meridionalis* as any more than of occasional assistance. Size is however a good guide, the wing of males of *C. e. europæus* varying from 189 to 204 mm., and the males of *meridionalis* varying from 174 to 189 mm. This seems constant.

I also find that whereas the white on the second primary very rarely extends to the outer web in *C. e. europæus*, it does so not infrequently in *meridionalis*. The type, a July bird from Greece, has a considerable amount of white on the outer web, and so have others I have examined from Greece and Algeria.

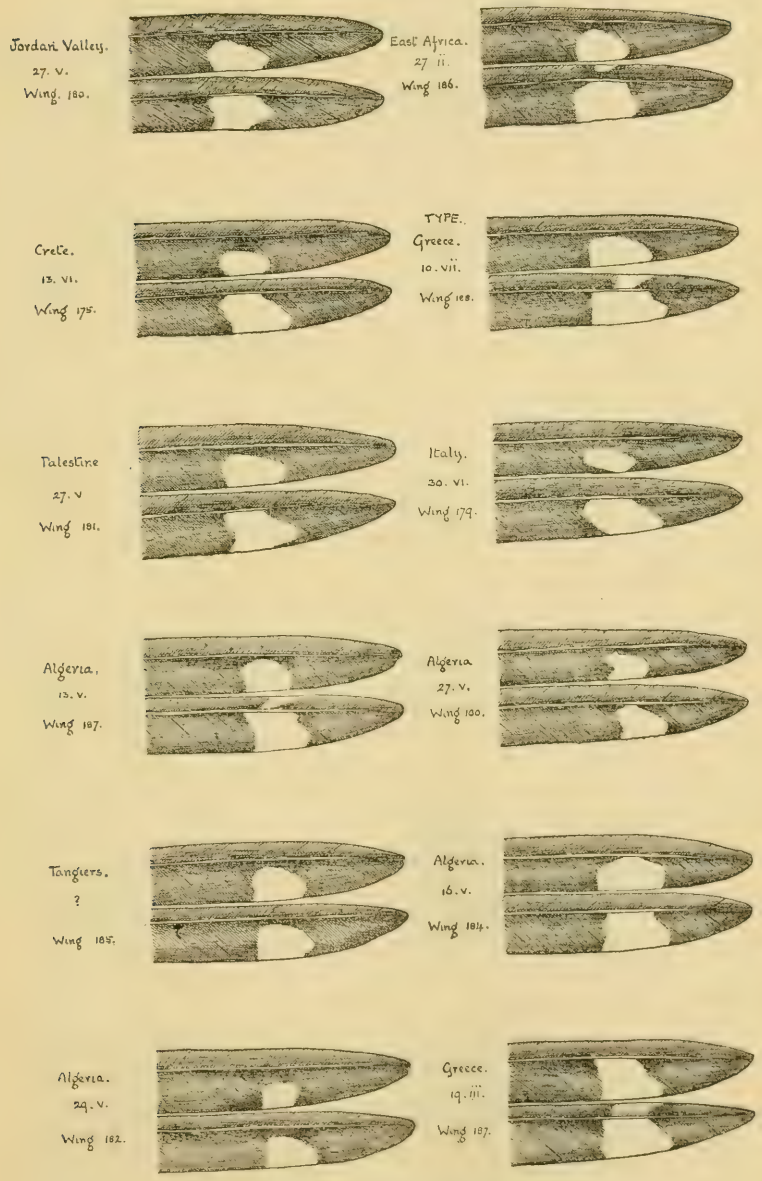
C. zarudnyi is said to have the white on the first and second primaries as in *unwini*, but with the plumage colour of *C. e. europæus*. I have only seen ten birds which agree with these characteristics, namely, one from the Persian Gulf and one (?) from the Transvaal, in the Tring collection, two shot by Nicoll in Cairo, two which I collected in Palestine, and four from Central Asia in the British Museum. Are they merely *C. e. europæus* or *meridionalis* showing a large amount of white on the wing, or are they really a good race?

Text-figure 4.



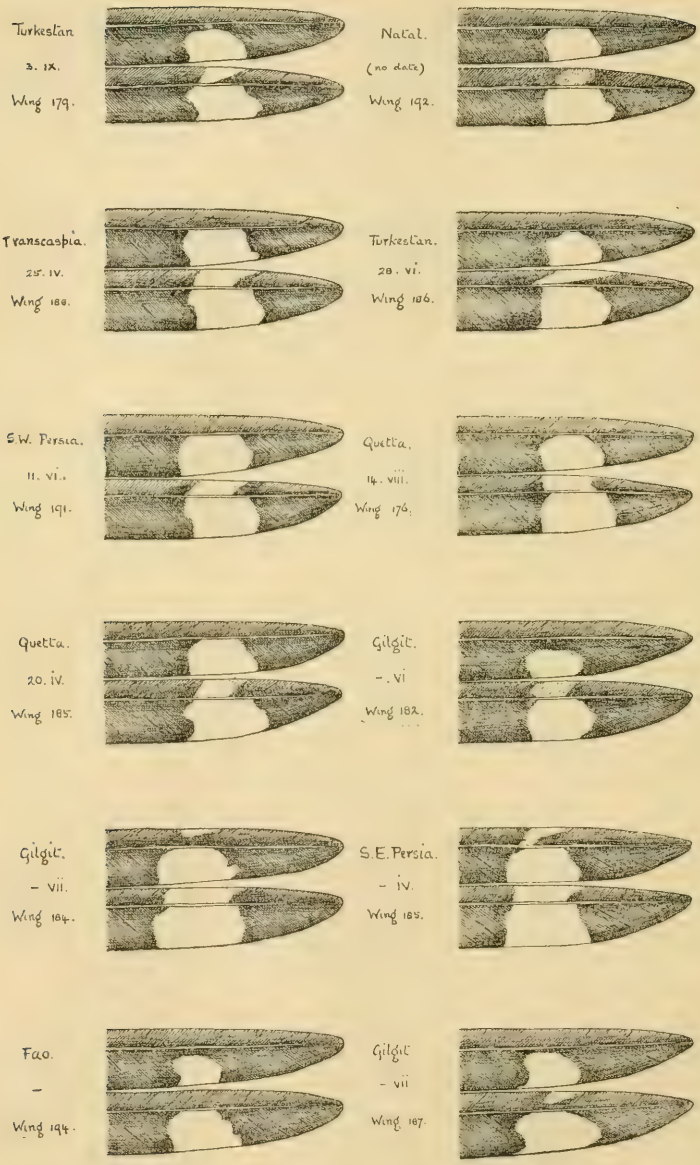
Variation in the wing-spot on the first and second primaries of *Caprimulgus europæus europæus*.

Text-figure 5.



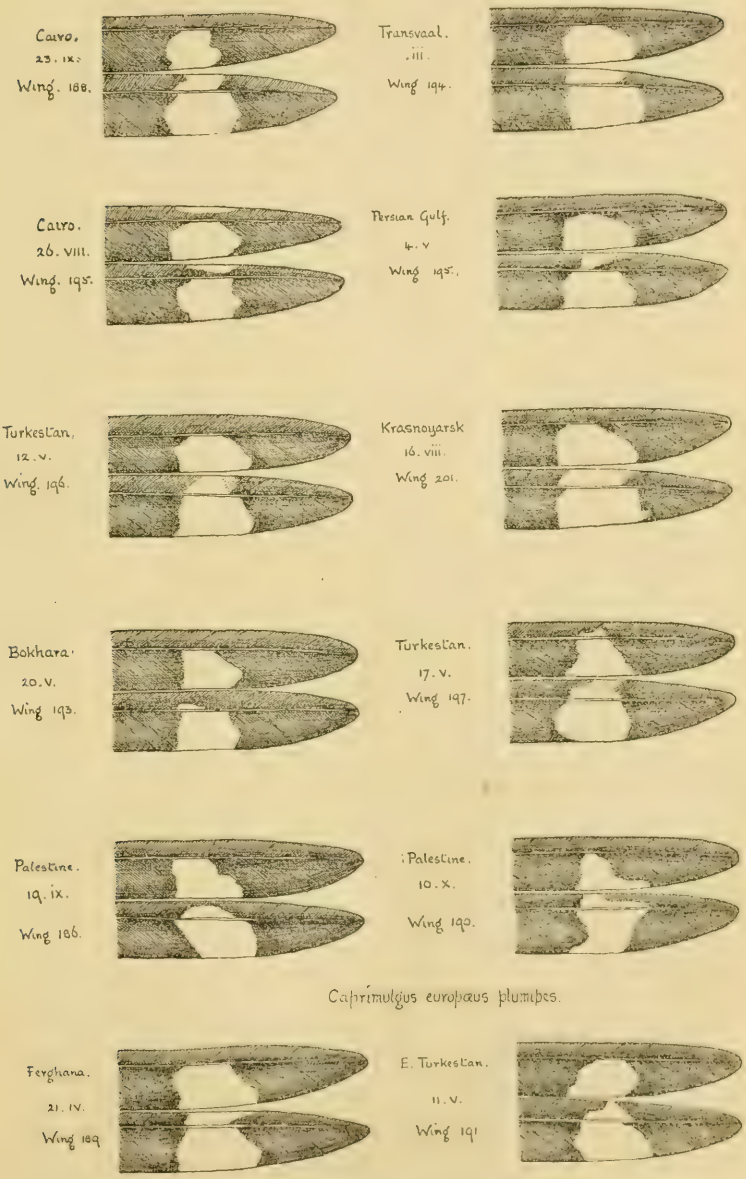
Variation in the wing-spot on the first and second primaries of *Caprimulgus europæus meridionalis.*

Text-figure 6.



Variation in the wing-spot on the first and second primaries of *Caprimulgus europæus unwini*.

Text-figure 7.



Variation in the wing-spot on the first and second primaries of *Caprimulgus europæus zarudnyi* and *C. e. plumipes.*

C. unwini nearly always has white on the outer web of the second primary, but not always. A male from Natal, which on colour must be assigned to *unwini*, has a yellow patch with a minute white core on the outer web, and nothing more. But *unwini* can always be distinguished from other races by its much paler coloration.

Both *zarudnyi* and *unwini* appear to be intermediate in size between *C. e. europæus* and *meridionalis*, wings of adult males of both races varying from 178–195.

I have prepared drawings (text-figs. 4–7), showing the variation in the wing-spots among the various races of *C. europæus*, which show how inconstant a characteristic this is.

Upupa epops epops L. and **Upupa epops major** Brehm.

From an examination of a large series of *Upupa e. epops* from the Near East, and 22 *Upupa e. major* from Egypt, it appears that, apart from measurements, there are considerable colour differences.

Upupa e. epops. A pinker and cleaner bird than *major*, with more and purer white on the abdomen, and with less boldly marked flanks and abdomen. Head paler and not so red. Lower neck and upper back much paler.

Upupa e. major. More vinaceous and duller. Less white on the abdomen which is more boldly streaked with black. Under parts generally much dirtier looking. Inner secondaries not so brightly marked and of a more suffused sandy colour. The white subterminal band on the tail is usually narrower. Head a darker and duller red.

The measurements are as follows :—

			Culmen.	
Sex.		*Wing.*	*Depth at base.*	*Length.*
♂	*Upupa e. epops*	130–151	6–7	53–63, 65.
♀	*Upupa e. epops*	131–146	5, 6–7	48–61
♂	*Upupa e. major*	135–148	7, 8–9	56–68
♀	*Upupa e. major*	138–147	8	56–65

Upupa e. major is now a common resident in the Egyptian Delta and up the Nile at least to Assuan. It is absent from the Suez Canal. It breeds early, young being usually out

of the nest during the first few days in April, when *Upupa e. epops* is still passing through Egypt.

The status and migration of *Upupa e. epops* in the Near East seems to be as follows :—

Breeds commonly throughout Asia Minor, Armenia, at Aleppo, where three nests were taken in early April, at Urfa in north-west Mesopotamia, in Syria at Baalbek but apparently not at Damascus. Breeds commonly in the Balkans in May and June. Absent as a breeding species from Crete, though a few breed in Cyprus. A rare breeding species in Palestine, no evidence of its breeding in Sinai, and of course does not breed in Egypt.

They commence leaving Armenia in early August and passage continues throughout September. Passage occurs in Cyprus throughout September. They commence passing northern Sinai in late July, the bulk passing from the middle of August to late September. Latest record 13. x.

They commence arriving in Egypt during the last ten days of August and passage continues till the end of September, birds being most numerous during the first half of that month. In the Sudan they are common in September and remain the winter. They are scarce in the Bahr el Ghazal in winter. It seems doubtful where the bulk spend the winter. Birds occur in northern Somaliland from the end of September and remain at least to the middle of November, if not later.

Very few reach Kenya Colony, though I obtained one on Mount Kenya on 23. xi. 03, and another was obtained by Turner on Lake Rudolf on 13. iii. But they are distinctly rare in Kenya Colony. One has been obtained in Uganda on 17. x. It is possible a few winter in the Jordan Valley in Palestine, as I saw a few on 23. ii., and in north-west Arabia where one was obtained on 18. ii.

In a paper on the birds of Turkanaland (Journ. East Afr. and Uganda N. H. Soc. no. 16, 1921) Van Someren, under the name "*Upupa epops*. European Hoopoe," records a specimen shot in March. Apart from the interest in the record, when will ornithologists use consistent nomenclature? *Upupa*

epops is not the European Hoopoe, but the specific name for the Hoopoe which in various forms occurs throughout the Old World. If Van Someren does not believe in geographical races, why does he use trinomials in many instances throughout his paper? To use nomenclature as a convenience is a parody of science. Inconsistent nomenclature can only lead to confusion in the minds of readers.

Birds commence moving north in early March, for I saw an exceptionally early migrant on the Sea of Galilee on 6. iii., long before the bulk had arrived.

Passage in the Sudan seems to occur throughout March and April, a late bird being obtained at Khartoum on 24. v. and at Port Sudan on 2. v. and 4. v. They are numerous at the latter place on spring passage during the last ten days of March.

Birds commence arriving in Egypt about 1. iii., and passage is at its height from the middle of March to the middle of April. None were seen after 22. iv. They have been recorded as plentiful in Sinai in the middle of April, the first arrivals being noted on 5. iv.

They are common in Siwa Oasis and at Sollum on spring passage during March and early April.

The bulk commence arriving in southern Palestine in the middle of March, passage lasting till early April. They pass Cyprus during March, and have been observed in Crete in early April. Breeding birds arrive at Salonika in Macedonia from 25. iii., at Beirut in Syria during the first ten days of April, and in Armenia in the middle of April.

CORACIAS GARRULUS.

Coracias garrulus semenowi Loud. & Tschusi.

Breeding birds from the Jordan Valley are of this race. Eggs were taken on 1. v. Birds which breed elsewhere in Palestine, and all migrants to Egypt, Somaliland, and eastern Africa belong to the typical form.

Coracias garrulus garrulus L.

Breeds at Aleppo and throughout Syria south to the coastal plains of Palestine and the Judæan highlands.

Birds appear to commence arriving in Egypt from the last days of July, migration being in full swing by 23. viii., and all appear to have passed by the end of September, adult birds being the first to pass.

Birds were common at Baalbek in Syria till at least 10. ix., though they commence leaving for the south in late July, and passage continues till the third week in September, late stragglers being seen in early November.

Birds appear to arrive in the Sudan in early September and throughout October, but few remaining during the winter. In northern Somaliland they arrive in the middle of October and in November. In Kenya Colony they arrive from early November, many remaining through the winter. In Rhodesia they have been seen as early as late September, but they rarely reach Natal before December.

In Kenya Colony, birds of the year arrive about a fortnight before any adults are seen.

Towards the end of January and in early February birds commence leaving South Africa, passing Rhodesia throughout March and April, and through tropical eastern Africa during March and early April. Flocks have, however, been noted moving north near Kilimanjaro as early as 2. ii. They were swarming on the Serengeti Plains during the first half of March 1916, and a few were still on the slopes of Kilimanjaro on 20. iii. On the coast, birds pass north through Mombasa throughout March, my latest record being at Lamu on 9. iv.

Breeding birds commence arriving in Palestine during the first few days of April, some years not till the third week in April, but passage is usually at its height during the last week in April. Obtained in Somaliland on 11. v.

Spring passage in Egypt is rarely noted.

Weigold noted the first arrivals at Urfa in north-west Mesopotamia on 13. iv., and Danford in Asia Minor on 20. iv.

CUCULUS CANORUS.

Cuculus canorus canorus L.

All Egyptian passage migrants which I have examined are of this race. Of four East African winter visitors, one obtained on 6. xi. is of this race, whilst three others are *telephonus*. Five Palestine birds obtained on autumn passage in August are also *telephonus*.

A red female ("*hepaticus*") was obtained in Egypt on 9. v. Whereas the normal Cuckoo obviously mimics the plumage of the Sparrow-Hawk, the red variety equally obviously mimics the Kestrel. Is this a case of initial evolution in a Cuckoo which finds it more convenient to resemble the Kestrel instead of the Sparrow-Hawk, and which perhaps breeds in a district where the Kestrel is common and the Sparrow-Hawk unknown? These red varieties are so far only known in the females, to which of course such mimicry would be more useful than it would be to males.

I believe there is no autumn record of the Cuckoo in Cyprus, though a few are believed to breed there.

Birds have all left Armenia by 18. viii. They stream through Palestine, the first passage migrants, all adults, being seen about 8. vii. They were common by 28. vii. and scarce by 30. viii., the last seen being on 14. ix. Immature birds only passed during the last days of August.

The earliest autumn record for Egypt is on 19. vii., but the bulk pass between 5. ix. and 23. ix.

Adults obtained in northern Somaliland on 30. viii. and 18. ix., and in south-west Arabia on 6. ix. In the Sudan they are said to arrive in large flights about 13. ix. in a very exhausted condition, but do not remain during the winter.

In tropical eastern Africa my first record is on 29. vii. in Uganda and another on 26. viii. at Korogwe in north-east Tanganyika Territory. But they do not arrive in any numbers till October, when they are spread all over the country, remaining the winter.

A few, usually immature birds, reach Rhodesia in January, the Transvaal in December and January. In Portuguese

East Africa they arrive about December and remain till early March. In the South-West African Protectorate they arrive about December and have been obtained till April. Only stragglers reach Cape Colony.

Spring passage and emigration occurs in tropical east Africa during March, when ill-voiced "cuckoo-ing" may rarely be heard. My latest record for Kenya Colony is on 1. iv., though they have been obtained as late as 25. iv. Spring passage is at its height in the Sudan from 14. iv. to early May, a few passing till the middle of May, and birds have been heard calling in the Bahr el Ghazal on 10. iv. They have been obtained in Sinai on 19. iv.

In Egypt the first spring arrivals have been noted on 10. iv., after which they are common to about 14. v. None were observed after 16. v. They have been heard calling on 30. iv. and 1. v.

In Palestine the first spring arrivals were noted in the Jordan Valley and on the Sea of Galilee on 6. iii., and they were calling everywhere round the Sea of Galilee on 9. iii. The bulk seemed to be passing north from 7. iii. to 25. iv. An odd bird may remain behind to breed, but I have no definite evidence of this.

In Armenia they arrive in the middle of May and at once commence laying.

In Cyprus they pass through commonly from 2. iv. to 7. v. First spring arrivals were noted at Salonika on 10. iv.

Cuculus canorus telephonus.

Obtained in Kenya Colony on 21. ii., 25. ii., and 18. xii. Five autumn migrants obtained in Palestine in August are all of this race.

An adult female from northern Somaliland (Archer) shot on 10. xi. is typical of this race.

Clamator glandarius (L.).

Writers have frequently hinted that this Cuckoo in the eastern part of its range is a larger bird than those breeding in the west. It will be seen from the following table of wing measurements that such a difference, slight though it

is, does exist. Localities are arranged in accordance with the size of the wing.

Birds examined.		*Locality.*	*Wing.* *Males.*	*Females.*
7	♂ ♀	Sudan	222–224	198–211
12	♂ ♀	Egypt	201–220	195–199
1	♂	Cyprus	218	—
2	♂ ♀	Syria	216	203
3	♂ ♀	Palestine	208–215	202
1	♂	Asia Minor	212	—
4	♂ ♀	Morocco	205–211	199
3	♂ ♀	Spain	200–210	194
16	♂ ♀	Tropical E. Africa	186–198, 212, 215, 218	185–188, 190
15	♂ ♀	Tropical W. Africa	199–210	193–200
7	♂ ♀	South Africa	191–208	180–186
7	♂ ♀	Central Trop. Africa	196–205	188–191
5	♂ ♀	Angolaland	199	188–198
1	♀	Germany	—	201

Eastern breeding birds can be said to range between 186 and 224 in males, and between 185 and 211 in females. Western breeding birds seem to range between 199 and 211 in males and between 193 and 199 in females. I have included tropical east Africa and tropical west Africa under the eastern and western breeding birds respectively. I do not consider such measurements justify separation.

From all sources I have the following records of birds from localities.

Spain	Feb. (one), March–May, Aug. (one).
Morocco	Feb., April, June, Dec.
Syria	April.
Asia Minor	April.
Palestine	Feb., March, April.
Cyprus	May.
Egypt	Jan.–April.
Sudan	Jan.–May, July (one), Aug., Sept.
Somaliland	Jan.–March, June, July, Aug.
Tropical W. Africa	Feb.–May, July (one), Aug. (one), Sept., Nov., Dec.
Tropical E. Africa.	1st April (one), May, July, Oct.–Feb.
Central Africa	March, Oct.–Nov.
Angolaland	Jan., Oct., Dec.
South Africa	Oct.–March.

Birds have been recorded as breeding regularly in South Africa from December to February. They breed for certain in northern Somaliland.

In both Palestine and Kenya Colony birds were always noted in small noisy parties, keeping continually on the move and very wild. I never found birds in the same place for more than 24 hours.

Otus brucei (Hume).

The common breeding and resident Scops in Aleppo, three nests being found with the old birds by Brig.-Gen. Clarke.

Otus scops scops.

I am unable to recognize *Otus scops pulchellus* (Pallas). Its supposed greyer coloration and larger size are, I believe, matters of individual variation. In the eastern part of its range, *Otus scops scops* is, on an average of a large number of measurements, very slightly larger than the more western and southern birds, but the overlap of measurement is so extensive that the most inveterate "splitter" could scarcely describe a subspecies on it. If splitting is insisted on, then we could describe a whole host of geographical races of all birds with an extensive range, not one of which could be determined from individuals except by locality. It would indeed be a prostitution of the trinomial system.

ATHENE NOCTUA.

Athene noctua glaux (Sav.) and **Athene noctua lilith** Hartert.

In fresh autumn plumage there is very little difference between the upper parts of *glaux* from Egypt and *lilith* from Palestine, except that *lilith* has more white spotting about the head and neck and is slightly more plum-coloured. In worn plumage *glaux* never bleaches to the extent that *lilith* does. This latter race gradually fades until the upper parts of breeding birds (Jerusalem in March and April) are of a pale fawn colour with a regular white nuchal collar.

But the under parts are the best characters of the two races. In *glaux* the under parts in fresh autumn plumage

are never streaked with pure white, whereas *lilith* is invariably streaked with pure white and brown.

In winter *glaux* becomes white below, but never so white as *lilith* in the same plumage.

8 ♂♂.	*A. n. glaux* from Egypt have wings	156–163 mm.
5 ♀♀.	„ „ „	157–164 mm.
9 ♂♂.	„ from Palestine have wings	151–161 mm.
7 ♀♀.	„ „ „ „	153–166 mm.

A. n. glaux is an abundant resident in the Egyptian Delta, but does not extend to the deserts east of the Suez Canal or west of Alexandria.

A. n. lilith occurs throughout Syria and Palestine from Damascus, the Syrian Desert and Baalbek to Gaza and Beersheba in southern Palestine. An *Athene* is a common resident at Aleppo, but I failed to secure specimens.

Athene noctua saharæ (Kleinschmidt).

A Little Owl which I shot at Sollum in western Egypt on 21. i. 20 proves to be of this race. In fresh autumn plumage this subspecies is about the same tint as that of *lilith* in February or March, but is even whiter below and generally a paler bird. Wing of my bird, a female, 155 mm.

Strix aluco aluco L.

On 26. ii. at Hebron during a blizzard I shot a Wood-Owl, which was hooting loudly at noon. The bird was a female with a wing of 264 mm. It was very grey, the whole plumage being almost pure black and white. There is nothing in the Tring Collection which approaches it, but in the British Museum is a similarly coloured bird from Inverness shot in May.

Both Tristram (Survey Western Palestine) and Hartert have pointed out the resemblance which Palestine birds have to others from northern Africa (*mauretanica*), but whereas in the latter country the darker and greyer upper parts are constant, in Palestine, Syria, and Asia Minor birds seem as variable as others from Great Britain and the Continent.

I have examined the following, all in the British Museum:—

?	Lebanon	Dark grey.	Wing 269.
	(Closely resembling *nivicola* from India and China.)		
?	Lebanon	Red.	Wing 269.
♀	Taurus Mts. (Feb.)	Red.	Wing 263.
♀	Asia Minor (Feb.)	Red.	Wing 270.
♂	Lenkoran (Dec.)	Grey.	Wing 280.
♂	Lenkoran (Dec.)	Red.	Wing 286.
♂	S. Coast Caspian (Apr.) .	Grey.	Wing 301.
♀	Asia Minor	Grey.	Wing 286.
♀	Trebizond (Nov.)	Red.	Wing 261.

Witherby's bird from S.W. Persia which I have examined is a male with a wing of 269 mm., and is a pale grey bird with less and narrower streaks on both the upper and under parts. It undoubtedly belongs to the race *sancti-nicolai* of Sarudny.

Falco æsalon insignis (Clarke).

There were about 40 of these birds on passage and resting in some thorn-trees, along with Peregrines, Sparrow-Hawks, and Cuckoos, at the Delta Barrage in Egypt on 11. iv. and 18. iv. They had all gone by 9. v. On 11. iv. all the birds I saw or obtained were adult or immature males.

Those Palestine birds of passage which I have examined also belong to this race.

FALCO NAUMANNI.

Falco naumanni naumanni Fleisch. 1818: Germany and Switzerland.

A summer visitor to Palestine, breeding in large colonies at Jenin and Acre, commencing to arrive on 27. ii. Also common on spring passage in Egypt in late March and early April.

I find that in late winter, spring and summer, birds fade to a large and variable extent, which has given rise to the race *turkestanicus*. Throughout the range of the Lesser Kestrel, the colour of the mantle shows considerable variation, which is not constant within any given area.

An examination of the series at Tring, together with the breeding birds I obtained in Palestine and several shot on

passage in Egypt both by Nicoll and myself, shows that the colour of the mantle counts for nothing, being dark in freshly-moulted birds and fading to various degrees in spring and summer. But both Palestine, Turkestan, and Egyptian birds usually show more blue in the wing than is found in others from southern Europe and northern Africa, but this is by no means constant.

I therefore regard *turkestanicus* as a synonym of the typical race, and not of *pekinensis* as stated by Hartert (Vög. pal. Faun. p. 1082).

Falco naumanni pekinensis (Swinhoe), P. Z. S. 1870, p. 442 : Pekin.

The type of this race is a particularly dark individual shot near Pekin on 18 . x . 68, and is in freshly-moulted plumage. Its mantle can be matched by others in similar plumage from Europe. But it is remarkable in having the whole of the metacarpal joint and upper wing-coverts blue. In the original description of this race the wing-coverts are described as grey "right up to the scapulars." This, and not the colour of the mantle, seems to be the best test of the race.

In the Tring collection are four winter birds from South Africa and Masailand which show more blue in the wing than is found among European birds, but which are certainly not typical *pekinensis* though labelled as such. They are probably Turkestan or Palestine breeding birds. In the British Museum, in addition to the type, are the following birds which I ascribe to *pekinensis* :—

	♂	Pekin	August.
4	♂♂	Nepal	undated.
	♂	Cachar	undated.
	♂	W. Coast India	Feb.
	♂	Lucknow	Feb.
	♂	Dinapur	March.
	♂	Assam	undated.
2	♂♂	Dibrugur	March.
	♂	Naivasha	March.
	♂	S. Abyssinia	Oct.
	♂	Cape Colony	undated.

Nicoll (Handbook B. Egypt) records them as abundant on passage in Egypt, but this is an error as all his birds belong to the typical race. David and Oustalet (Oiseaux de la Chine) state they breed in the hills of Pechili near Pekin, and collect in September in large flocks previous to their migration towards India, but they doubt whether they breed regularly in northern China. Neither Taczanowski nor Przewalski mentions the species in eastern Siberia or Mongolia.

Finch-Davies (Ibis, 1920, p. 621) refers many South African birds to this race on the amount of blue on the wing. Percival (Ibis, 1910, p. 708) observed large flocks of Lesser Kestrels and *Falco vespertinus amurensis* migrating in company over the Kikuyu Forest in Kenya Colony, but fails to designate the race of Lesser Kestrel. It is more than likely that they were *pekinensis*.

As no recent collector in China or eastern Asia has observed or obtained the Lesser Kestrel, and its occurrence in India is rare in winter, I am inclined to believe that the breeding-range of *pekinensis* is very restricted in northern China, and that birds winter in India and Africa south to Cape Colony, passing Kenya Colony *en route*.

FALCO TINNUNCULUS.

The Kestrels of the Near East are perhaps the most confusing group of birds. I have examined a series of over 100 birds from the Tring collection, 29 from the Giza Zoological Museum, and 28 birds collected by myself in Palestine, Egypt, Crete, and eastern Africa. Also a series of 21 birds from southern Arabia and northern Somaliland.

On colour alone, these birds are divisible into richly-coloured birds with dark red thighs, and paler-coloured birds whose under parts are whitish. Such richly-coloured birds occur in England, Crete, Sardinia, throughout Egypt, Palestine and Syria, the Sudan and Nigeria in winter, in Morocco and Algeria in summer and winter, in southern Russia (March), southern Arabia and northern Somaliland in summer and winter, Turkestan, Mongolia, and India. I have

excluded from the above all birds belonging to the well-defined races *interstinctus* (=*saturatus*), *japonicus*, and *carlo*.

The paler birds with whitish under parts occur in northern China (Aug.), throughout Persia and Baluchistan from March to August, as winter visitors to Egypt, Kenya Colony, and the Sudan, in Mongolia (May), throughout Russia in summer; they breed in Palestine and Crete, occur at Eregli in Asia Minor in winter, in central Asia in winter and summer, and in Algeria and Morocco in winter and summer. They are resident in Cyprus and the British Islands, and occur in winter in Nigeria, India, and southern China. Most birds from continental Europe and Asia belong to this pale form.

Breeding birds of the richly-coloured race occur in Egypt, Nubia, Palestine, Crete, Morocco and Algeria, whilst I have examined breeding birds of the paler race from Persia, Mongolia, Italy, southern Russia, Palestine, Crete, Bokhara, Algeria, and the British Islands.

On wing measurement, birds from the Mediterranean are smaller, but this is not constant within any definite locality except Egypt. Also birds from the far north and eastern Asia are slightly larger, but this again is not constant. As the colour characteristic is also constant in Egypt, I can only recognize two races of *Falco tinnunculus* in Palæarctic Europe and Asia (excepting *japonicus*), though perhaps with a larger series of breeding birds from the Mediterranean Region, a sufficient constancy of richer coloration and smaller size might be found to justify a further separation.

Falco tinnunculus tinnunculus L.

Falco t. dorriesi Kirke Swann, Synopt. List Accip. p. 145, 1920.

Breeds in Algeria, Morocco, United Kingdom, continental Europe, and on the Mediterranean Islands (Corsica, Sardinia, Sicily, Crete, and Cyprus), in Syria, Palestine, and Palæarctic Asia except Japan.

Occurs in winter in northern India, Ceylon, Assam,

Burma, and throughout China. Baluchistan, Persia, and Africa south to Togoland in the west and to Tanganyika Territory in the east. Occurs on spring and autumn passage in Egypt.

This race appears to be resident except in the northern part of its range, and I doubt very much whether any birds from southern Europe, Asia Minor, Syria and Palestine, Mesopotamia, Persia, and Baluchistan move south. It is noteworthy that all winter visitors to tropical Africa are particularly large and pale, probably coming from northern Europe, and northern and central Asia.

Wing of males.

4	Corsica and Sardinia	238–246.
1	Spain	245.
4	Italy	238–252.
6	Algeria and Morocco	233–250.
4	Egypt (passage)	236–258.
5	Syria and Palestine	223–245.
2	Crete	240, 244.
7	Macedonia (*Stresemann*)	235–249.
18	Central Europe	236–252.
4	Central Asia	239–250.
3	Mongolia	239–249.
5	India (winter)	231–252.
2	East Africa (winter)	241–254.
3	Eastern Siberia	249–258.
1	Asia Minor (winter)	268.

The wings of females show less geographical variation, measuring from 247–270.

Falco tinnunculus rupicolæformis Brehm.

Adult males. The colour of the back is no guide in determining this race, many of them being quite pale, whilst some birds from Sardinia and England are still darker than Egyptian breeding birds. Under parts redder, especially on the thighs. Generally smaller, the wings of 17 varying from 222–247.

Adult females. Much darker on the back than in *F. t. tinnunculus*. On the under parts the ground colour is darker and the markings heavier. Wings of 12 birds 232–251.

Juvenile plumage (October). In this plumage *rupicolæformis* is even more distinct, the markings on the head, back, and under parts being much heavier and blacker than in any example of *F. t. tinnunculus*.

I am unable to separate the following individual males from *rupicolæformis*:—

Crete (June): wing 241.
Sardinia (Nov.): wing damaged.
Syria (Oct.): wing 228.
Lower Jordan (Feb.): wing 237.
Sollum, W. Egypt (Jan.): wing 236.
Senaar (Nov.): wing 230.
Sokotra (Dec.): wing 225.
Morocco (Dec.): wing 239.
Morocco (May): wing 246.

But in examining females from these localities it is clear that these males are only intensely coloured individuals of the typical race; they are certainly not *rupicolæformis*. One female from Morocco is, however, inseparable from *rupicolæformis*.

I must also refer birds from northern Somaliland and southern Arabia, resident in both localities, to *rupicolæformis*. Eight males have wings from 220–244, and eleven females from 235–259.

Birds from Sardinia are puzzling. Both dark males and females are common, but the majority are inseparable from continental specimens in both colour and size. Of two breeding males from Crete, one is the pale northern European bird, the other a richly-coloured specimen closely resembling Egyptian breeding birds.

Range. Resident in the Egyptian Delta south to Nubia, southern Arabia, and northern Somaliland. Occurs in winter in the Sudan, where it is possibly resident.

Milvus migrans (Bodd.).

The following characters have been noted among the races *M. m. migrans*, *ægyptius*, and *parasitus*, and may be of use in determining visitors to tropical Africa, where all three occur in winter.

M. m. migrans (Bodd.). Bill black in both adults and young. Breast-feathers with broad dark brown shaft-stripes,

usually over 5 mm. broad. Head with little or no red on the crown. Back usually darker in the centre than in either *parasitus* or *ægyptius*. Wing 434–472, usually 440–460.

A strong migrant. I observed several parties passing north over the Pyramids in Egypt on spring migration from 3. iv. to 6. iv., but so far no bird of this race has with certainty been obtained in Egypt. Fully adult black-billed Kites were also frequently seen at Helouan south of Cairo in November and December, whereas none but yellow-billed Kites were observed in the same locality after the end of March.

M. m. parasitus (Daud.). Bill yellow in adults and black in immature birds. Breast-feathers with narrower and usually blacker shaft-stripes than in *M. m. migrans*, seldom exceeding 3 mm. in breadth. Head redder and less whitish than in either *M. m. migrans* or *ægyptius*, but on the whole not such a red bird as *ægyptius*. Tail deeply forked, the difference between the tips of the middle and outer rectrices varying from 30 to 68 mm. Wing 410–455 mm., usually 422–445.

Confined to tropical Africa.

M. m. ægyptius (Gm.). Bill yellow in adults and black in immature birds, though sometimes the black bill is retained till the bird is in apparently adult plumage. Shafts on the breast-feathers as in *parasitus*. General coloration nearly always redder than either of the preceding races. Sclater & Praed (Ibis, Oct. 1919, p. 691) say that this race differs from *parasitus* by its lighter more reddish colour and paler head, the tail being as a rule more reddish. Tail moderately forked as in *M. m. migrans*, the difference between the tips of the centre and outer rectrices varying between 15 and 46 mm. Wing 430–458 mm., usually 440–448.

Resident in the Egyptian Delta and Nubia, a few individuals wandering south in winter to tropical East Africa. Birds from Somaliland and southern Arabia appear to be intermediate between *parasitus* and *ægyptius*.

COLUMBA LIVIA.

Columba livia palæstinæ Zedl.

Zedlitz (J. f. O. 1912, p. 339) described this race from a specimen shot in the Wadi Fara, in the Jordan Valley a few miles north of Jericho, giving as its characteristics a darker coloration than *schimperi*, especially on the upper parts. Wing 215 to 218 mm. He does not mention the most important point, the colour of the lower back, but through the kindness of Dr. Stresemann, I understand that it is the same colour as the mantle.

Hartert (Vög. pal. Fauna) says of *palæstinæ* that the upper parts are as in *schimperi*, the under parts as in true *livia*, therefore darker than *schimperi*. Rump usually somewhat greyish. Wing 203–226. Variable! And further (Nov. Zool. 1917, p. 462) he considers birds from south-west Arabia to be identical with *palæstinæ*. I hope to show that this is incorrect.

Sclater refers these same birds from south-west Arabia to *intermedia* from India. This I also believe to be incorrect.

Sclater & Praed (Ibis, 1920, p. 827) draw attention to the fact that birds from the Red Sea Province of the Sudan are not unlike those from southern Arabia, and consider the Sudanese birds nearest *schimperi*, the south Arabian birds nearest *intermedia*, whilst Palestine birds are nearest to true *C. l. livia*.

I have been fortunate in examining the whole series at Tring and the British Museum, together with 19 birds which I recently collected in Syria, Palestine, Egypt, Crete, and on the coast of the western desert of Egypt. I also examined a large series of Egyptian and Sudanese specimens in the Giza Zoological Gardens Museum at Cairo.

It is a most unfortunate thing that the type of this race came from north of Jericho, for the locality is on the borderline between *palæstinæ* and *gaddi*. Birds which agree with the type of *palæstinæ* occur in the southern extremity of the Jordan Valley, Dead Sea, Sinai, throughout Arabia south to Muscat and Aden, and constitute a small pale desert race with a grey rump (rarely whitish).

In the northern Jordan Valley and throughout Palestine proper, occurs *gaddi*.

During autumn and winter large flocks of Rock-Pigeon visit the Lower Jordan Valley from the Judæan hills, and these appear to be always white- or whitish-rumped birds. But in spring the only Rock-Pigeon which I saw breeding in the earth cliffs of the River Jordan were grey-rumped birds. In the Upper Jordan Valley (Yarmuk Gorges) I saw huge flocks of white- or whitish-rumped birds throughout the year. Tristram (Survey of Western Palestine) noted this, but referred the grey-rumped birds to *schimperi*, and the white-rumped birds to *C. l. livia*. But this is not correct, for the grey-rumped birds are the true *palæstinæ*, which really only occur within the limits of Palestine in the Lower Jordan Valley and round the Dead Sea, and the white-rumped birds are *gaddi*, which are discussed later in this paper.

True *palæstinæ* are a shade darker both above and below than *schimperi*, not so dark as *gaddi* below, and of course much paler than either *intermedia* or *neglecta*. Lower back grey as the mantle, rarely paler.

The following is the detail of the birds of this race which I have examined :—

No.	*Sex.*	*Locality.*	*Wing.*	*Colour of lower back.*
2	♂	Jericho	218, 222	White and as back.
2	♀	Jericho	205, 216	Both white.
1	♀	Dead Sea	215	As back.
1	♀	Sinai	213	As back.
1	♂	Muscat	225	Pale grey.
6	♂	South-west Arabia.....	220–235	All as back.
3	♀	do.	211–218	All as back.

Columba livia butleri Meinertz.

Columba livia butleri Meinertz. Bull. B. O. C. xlii. 1921, p. 6.

Identical with *palæstinæ* in the colour of the mantle and under parts, the lower back being the same colour, or nearly so, as the mantle. Larger and a shade darker than *schimperi*, but not quite so dark above and below as *gaddi*.

Smaller than *palæstinæ*, the wings of three males measuring 207, 210, and 212 mm.

So far only known from Gebeit in the Red Sea Province of the Sudan.

Type ♂ (Butler coll.). Shot on 22. iii. 12 at Gebeit in the Red Sea Province of the Sudan. Brit. Mus. Reg. No. 1915. 12. 24. 255.

Columba livia gaddi Sar. & Loud.

This race was described from a specimen obtained on the lower reaches of the Karun River in S.W. Persia. I have not examined topo-typical examples, but birds from the highlands of S.W. Persia and Mesopotamia agree with the description, as also do others from Syria, Palestine (except the Jordan Valley), Anatolia in Asia Minor, Crete, and Sollum in western Egypt. The original description shows them to be intermediate in colour between *schimperi* and *neglecta*, whilst in size they agree with *C. l. livia*, *neglecta*, and *intermedia*.

Birds I have examined from the above localities are very near *C. l. livia* and paler examples of *intermedia*, and are markedly darker than *palæstinæ*. Their lower back is very variable, varying from pure white to whitish-grey. Only one—from Mesopotamia—has the lower back the same colour as the mantle.

In size they are considerably larger than *palæstinæ*.

The following is the detail of birds of this race which I have examined :—

No.	*Sex.*	*Locality.*	*Wing.*	*Colour of lower back.*
1	♂	S.W. Persia	240	Whitish-grey.
2	♀	Mesopotamia	220, 220	One white, the other grey as back.
1	♀	40 m. E. of Damascus .	225	Whitish-grey.
1	♀	Birejik on the Upper Euphrates	219	Whitish-grey.
1	♀	N.W. Persia	223	Whitish-grey.
2	♂ ♀	Sea of Galilee	225, 212	Pale grey.
1	♂	Anatolia	221	White.
2	♀	Palestine Coast	210, 212	Whitish-grey.
2	♂	Crete	216, 221	White.
3	♂	Sollum, W. Egypt	211–219	White.

C. l. neglecta is darker than *gaddi*, though not quite so dark as *intermedia*. Some birds from Kashmir and Turkestan are inseparable from *intermedia*. A pair in the British Museum from Samarkhand have wings 220 and 238, with lower backs grey and as back.

I have seen examples of *C. l. livia* from Morocco, Algeria, Italy, Sardinia, Greece, Montenegro, and the island of Lemnos.

A male in the British Museum from Tunis has a wing of 211 mm., with a lower back the same colour as the mantle. Both upper and lower parts are similar to *C. l. livia*.

Columba livia schimperi Bp.

I obtained a series of seven birds, all believed to be wild, from Helouan and the Fayoum. The wings of males run from 192 to 199 mm. and that of females from 190 to 204 mm. They are remarkably constant in the colour of the mantle and scapulars, which is much paler than in *C. l. livia*, and very similar (if anything slightly paler) to *palæstinæ*. Under parts much paler than *C. l. livia* and slightly paler than *palæstinæ*. Lower back from pure white to grey—the same colour as the mantle.

There are in the Giza Zoological Museum nine Rock-Pigeons from Wasta in Upper Egypt. Of these, four have pale grey lower backs, and five have almost white backs (not so white as white cotton-wool). The former are three females with wings of 184, 184, and 191, and one male with a wing of 184 mm. The latter are two females with wings of 189, and three males with wings of 192, 200, and 205 mm.

So we see that birds with white lower backs tend to be larger than those with grey lower backs.

Two females which I shot at Helouan have wings smaller than any of the above and their lower backs are even darker grey. Two females from Dongola, alive in the Giza Zoological Gardens, have almost white lower backs and wings of 197 and 205 mm.

Three unsexed birds from Egypt and Nubia in the

British Museum have wings 202–211 and lower backs the same colour as the back.

In typical *schimperi* the mantle is much lighter than in *C. l. livia*, and slightly paler than in *palæstinæ*; the bird is much smaller and the rump, though usually grey, is frequently whitish grey or almost white.

Now in Egypt there is no doubt that all the Rock-Pigeons have been, or could have been, contaminated by or even originated from domesticated stock. But this does not alter the fact that Egyptian birds all tend to revert, not to typical *C. l. livia*, but to a geographical race, which has been named *schimperi*. It can never be proved whether the origin of *schimperi* is artificial or natural; the fact remains that the climatic or other conditions of Egypt produce a geographical race of *Columba livia* which is different from all others.

STREPTOPELIA TURTUR.

Streptopelia turtur turtur (L.).

Common on both passages in Egypt and Palestine, none remaining the winter.

In 1920 spring passage in Egypt commenced about 18. iv. Birds were common by the first week in May and till at least 26. v. Migration seemed to pass not only over the Delta, but over Suez and up the Suez Canal to Port Said.

In Palestine during 1920 northern migration was in full swing in the Jordan Valley and over the Judæan highlands from 26. iv. to at least 4. v.

Streptopelia turtur arenicola Hartert.

Birds of this race occur in equal numbers with birds of the typical form and at the same periods in both Egypt and Palestine.

Streptopelia turtur isabellina Bonaparte.

A local summer visitor to the Egyptian Delta, arriving about the end of April. Their breeding colonies are by no means numerous.

STREPTOPELIA SENEGALENSIS.

Streptopelia senegalensis æquatorialis L.

Birds from Palestine, as already pointed out by Hartert, seem to be identical with the tropical African race. Their status seems to be that of a rare resident, and instead of occurring in the Jordan Valley, as do representatives of other tropical forms occurring in Palestine (*Amydrus*, *Crateropus*, *Cinnyris*, etc.), they are completely absent from that area. I only saw birds on two occasions, once at Jerusalem during a snow-storm in February, and once at Ludd in the coastal plain in May.

In Syria they are a plentiful resident at Aleppo, though they are absent from Antioch. At Aleppo they breed in the houses.

Streptopelia senegalensis ægyptiaca (Lath.).

The only race occurring in Egypt, where it is a plentiful resident.

Streptopelia decaocto decaocto (Friv.).

A common but local resident in Syria and Palestine. Abundant in the Jordan Valley, a few occur in the coastal plain from Haifa to Gaza, and a few at Beirut. Absent from Damascus and Baalbek. A plentiful breeding species at Aleppo.

ALECTORIS GRÆCA.

Alectoris græca cypriotes Hart.

An examination of the Chukar from Crete, Cyprus, the northern Sporades (Mytilene and Lemnos), Asia Minor, the Syrian Desert forty miles east of Damascus, Mount Carmel, Jerusalem and the Judæan highlands, and from Engeddi on the west shore of the Dead Sea, compel me to unite them all on colour characters with the Cypriote bird, which holds the oldest name—*cypriotes*. The two Engeddi birds do, however, appear to be more or less intermediate between *cypriotes* and *sinaica*.

The following are detail wing-measurements from the various localities :—

	♂♂.	♀♀.
Jerusalem	167, 170	—
Forty miles east of Damascus	161, 164, 165	151, 155
Judæan highlands	165	154
Asia Minor	—	158
Mount Carmel, Palestine	—	155
Eregli, S.E. Asia Minor	—	154
Engeddi, Dead Sea	—	158
Cyprus	162–169	153–157
Crete	155, 160, 163	148, 151
Sporades	—	148

On size also, I think it will be agreed, they can be united, though Cretan birds are on the small side.

Alectoris græca sinaica (Bp.).

This form occurs, according to skins I have examined, in Syria in the Anti-Lebanon behind Damascus, in the Moab hills east of the Jordan and throughout the Jordan Valley south to Jericho, and in the Sinai Peninsula.

Birds are markedly paler than *cypriotes* on the back and have a much greyer head, in some birds almost pure grey ; this no doubt induced Dawydoff to describe *margaritæ*, which must become a synonym of *sinaica*.

The wing of males varies from 165 to 177, once 151, and of females from 151 to 159 mm.

COTURNIX COTURNIX.

Coturnix coturnix coturnix (L.).

The Common Quail is a sparse resident throughout Palestine and Egypt and abundant on both passages. In early May 1920 adults with brood were flushed at the Delta Barrage in Egypt. A certain number winter regularly in Palestine, especially in the Jordan Valley, in Egypt and near Sollum, but whether these are the resident birds or part of the passage migrants, I am unable to say.

In Palestine spring passage appears to commence in early March. Autumn passage seldom commences before the middle of August and is at its height in early September.

In Egypt autumn passage usually commences during the last ten days of August and is at its height during the second week in September, the bulk moving farther south to the Sudan where they are common in winter. A few reach Kenya Colony, where I obtained a male at Mbuyuni on the Serengeti Plains on 11.iii.1916. But it seems to be the exception for the European Quail to cross the Equator, their usual southern limit in winter being a line from the Gambia in western Africa to the Equatorial Provinces of the Sudan, and thence to Abyssinia and northern Somaliland.

Spring passage in Egypt lasts from the latter half of March to the middle or end of April.

This eastern Mediterranean passage of Quail extends from Palestine, through Sinai and Egypt to about Mersa Matruh (200 miles west of Alexandria). Very few birds pass through Sollum (300 miles west of Alexandria), and the bird is practically unknown at Siwa Oasis in the western Desert of Egypt.

It may be of interest to point out that whereas in 1908 the total number of quail exported from Egypt amounted to 1,208,000 birds (which is by no means the total number of birds killed) that figure has systematically fallen, till in 1916 but 551,400 were exported. The figures are ominous.

Coturnix coturnix africana Temm. & Schleg.

The occurrence of this race in Egypt (see Nicoll, Handlist Birds of Egypt, p. 81) is incorrect. All Nicoll's specimens, which I have examined, are merely the red variety of the typical race (*C. baldami*).

C. c. africana appears to be resident in South Africa, Uganda, and Kenya Colony, where it is not rare in cultivation round Nairobi and in the Kikuyu Country. Also Madagascar and the Comoro Islands.

BURHINUS ŒDICNEMUS.

Burhinus œdicnemus œdicnemus (L.).

A specimen obtained at Kisumu on the Victoria Nyanza on 15.i.17. This is the second record from tropical East

Africa, another, now at Tring, having been obtained by Van Someren at Elmentaita Lake on 17. i.

Burhinus œdicnemus saharæ (Reichw.).

All Palestine (Jordan Valley and southern Palestine) birds belong to this race, also birds coming from the desert fringing the Egyptian Delta. They do not occur within the Delta.

Burhinus senegalensis senegalensis (Swains.).

A common resident within the Egyptian Delta. Five birds obtained agree with others from tropical Africa. They appear to breed exclusively on flat-topped roofs. Fresh eggs taken at the Delta Barrage on 9. v. This species does not occur outside cultivated areas in Egypt.

Charadrius hiaticula tundræ (Lowe).

It is this race which occurs in Egypt, Somaliland, and Kenya Colony in winter. In the latter country they are common on the coast from October onwards. They do not seem to move till April, and a few were still at Lamu on the coast on 22. iv., after which date all had gone north.

Charadrius dubius curonicus Gm.

In Egypt they are abundant in winter and a few remain to breed.

In Kenya Colony they are not so common as *Charadr. hiaticula*, and appear to be almost absent from the coast. Obtained on the Victoria Nyanza in January and on Lake Rudolf in March.

Charadrius alexandrinus alexandrinus L.

A common resident on the coast of Syria, Palestine, and Egypt. Also a very common breeding species on the salt lakes 40 miles east of Aleppo.

Charadrius varius allenbyi Nicoll.

Charadrius varius allenbyi Nicoll, Bull. B. O. C. xlii. 1921, p. 7 : Egypt.

A common bird in the Egyptian Delta, but absent from the north coast of Sinai and Palestine. It does not occur west of Alexandria, at any rate in winter.

I have recently measured a series of 44 birds of this and the typical race, and append the results :—

5 males from Egypt ; wings 102–111.	Average 107.
6 females from Egypt ; wings 104–112.	Average 108.
17 males from tropical Africa ; 98–106.	Average 102·5.
16 females from tropical Africa ; 98–110.	Average 104·5.

Charadrius mongolus atrifrons Wagl.

In 1916 this Plover was common on the coast of Africa around Mombasa in March and April, but had all left for the north by 19. iv. Four were obtained.

Charadrius leschenaulti Less.

Very common on the coast of Syria, Palestine, and Egypt west to Mersa Matruh in winter. Absent from Sollum. They had mostly left for the north by the middle of March. On the coast of east Africa they were abundant from November to the third week in April.

Charadrius asiaticus asiaticus Pall.

An abundant winter visitor to the open grass plains of Kenya Colony, arriving in flocks of from 10 to 40 birds in early November and remaining till the last few days in March. They were scarce in the first week in April. My latest spring record is two seen at Nairobi on 7. v. They assume full breeding plumage before leaving.

This species appears to avoid the coast, except for stragglers, but spreads out in winter from the Serengeti Plains and Makindu to the Victoria Nyanza, being perhaps commonest on the Athi Plains.

Squatarola squatarola L.

Common on the coast of eastern Africa in winter, commencing to arrive in late October and leaving in early April. All had gone north from Lamu by 20. iv. No record from inland. Three April birds from north of Mombasa appear to be the typical race, whilst winter birds from northern Somaliland are certainly the eastern form *hypomelæna*.

Gallinago media Lath.

A common winter visitor to Kenya Colony, first arrivals being noted on 30. ix. Common till the end of April. My latest record is at Nairobi on 11. v.

Limnocryptes gallinula (L.).

The Jack Snipe is a rare winter visitor to Kenya Colony. I shot a couple at Nairobi on 15. xi. 15, and on the same day bagged specimens of *Gallinago media*, *G. nigripennis*, and *G. gallinago*. I again saw a Jack Snipe at Naivasha on 8. xi. Others have been obtained at Nairobi by Percival and the late Capt. Woosnam.

Numenius arquatus lineatus Cuv.

All Egyptian specimens I have seen belong to this large eastern race. A series of nine birds from the coast of Kenya Colony are also of this race, the following being the measurements :—

Sex.	*Number.*	*Locality.*	*Wing.*	*Culmen.*
♂	2	Egypt	281–284	130–145
♀	2	Egypt	306	153–190
♂	7	Kenya Colony	276–295	130–145
♀	2	Kenya Colony	293, 296	180, 190

An abundant winter visitor to the eastern coasts of Africa from the end of October to the end of April. A few occur inland on Lake Naivasha and on the Victoria Nyanza.

Hæmatopus ostralegus.

Not obtained. One seen at Entebbe on Victoria Nyanza on 20. iii. 15, a few at Mombasa (Nov., Dec., April, May), at Tanga (November), Mafia Island (March), and at Dar-es-Salaam (September to November). They were not common anywhere.